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# Service Manual

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Fagor Professional Series

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2011-05

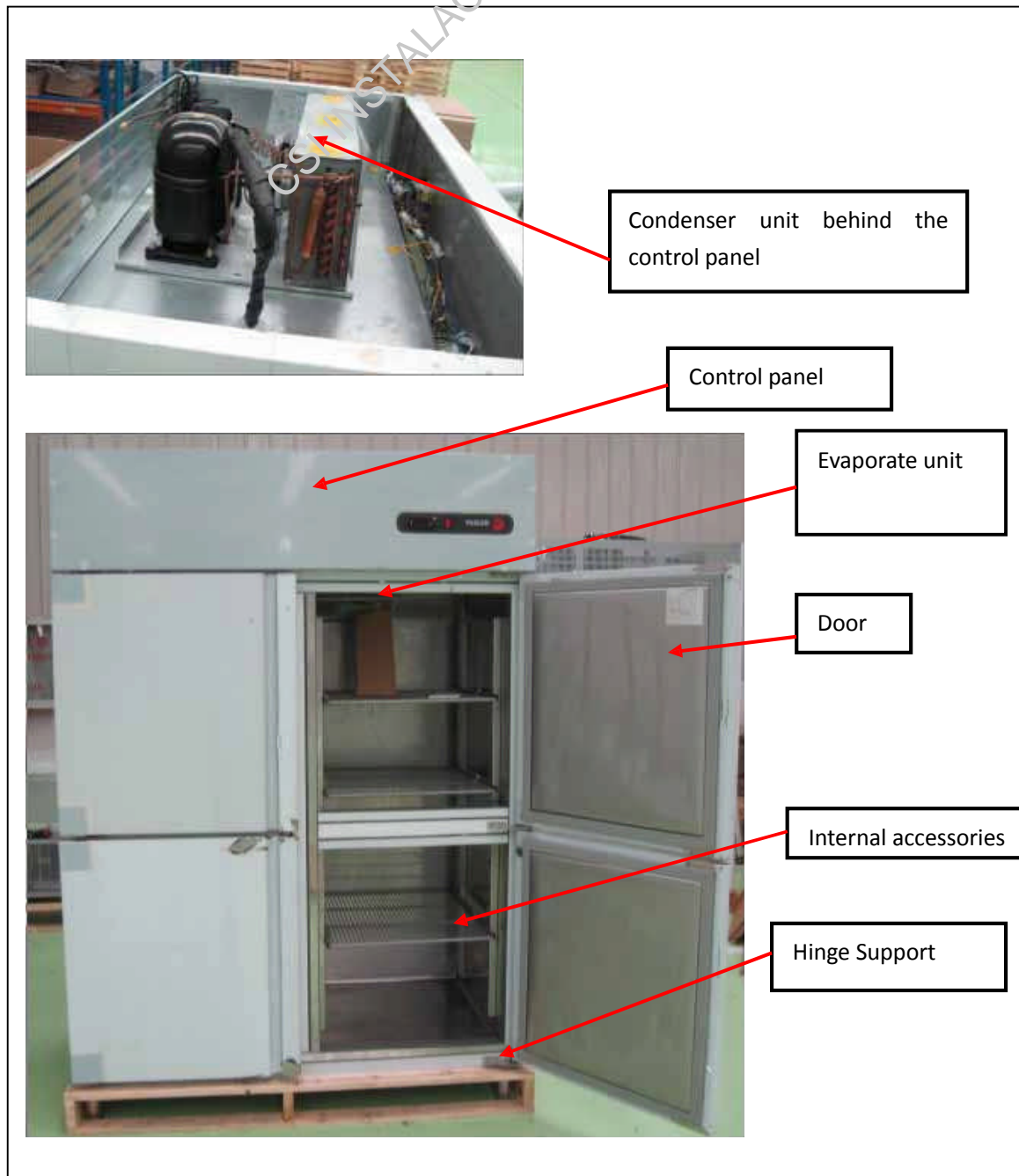
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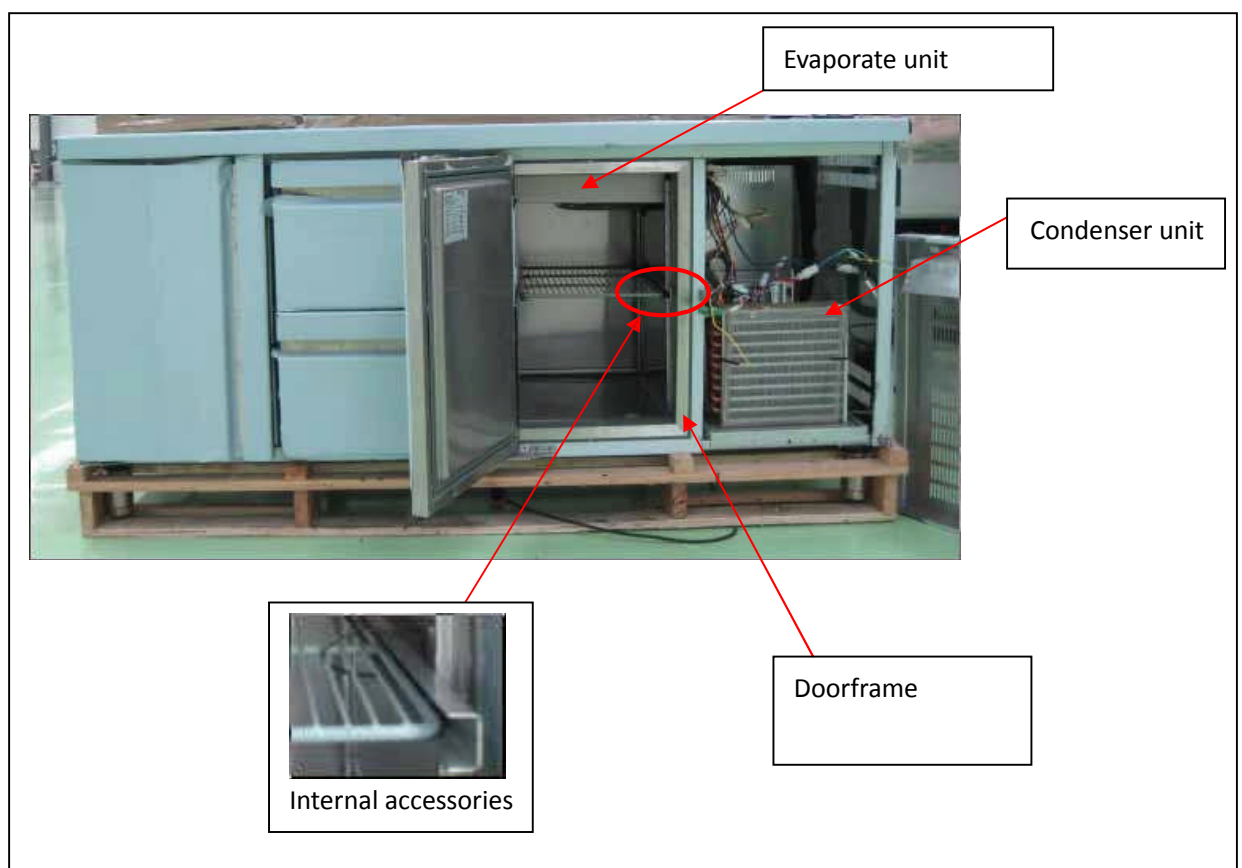
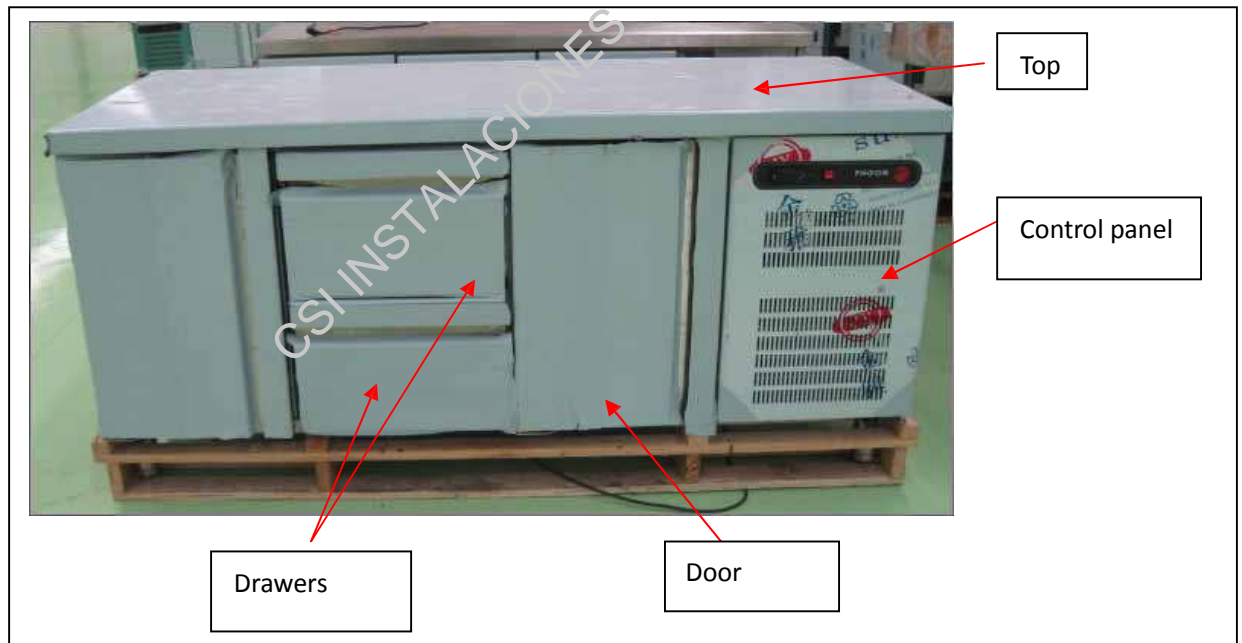
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## 1.Feature Chart

### 1.1Feature Chart of Upright Cabinets

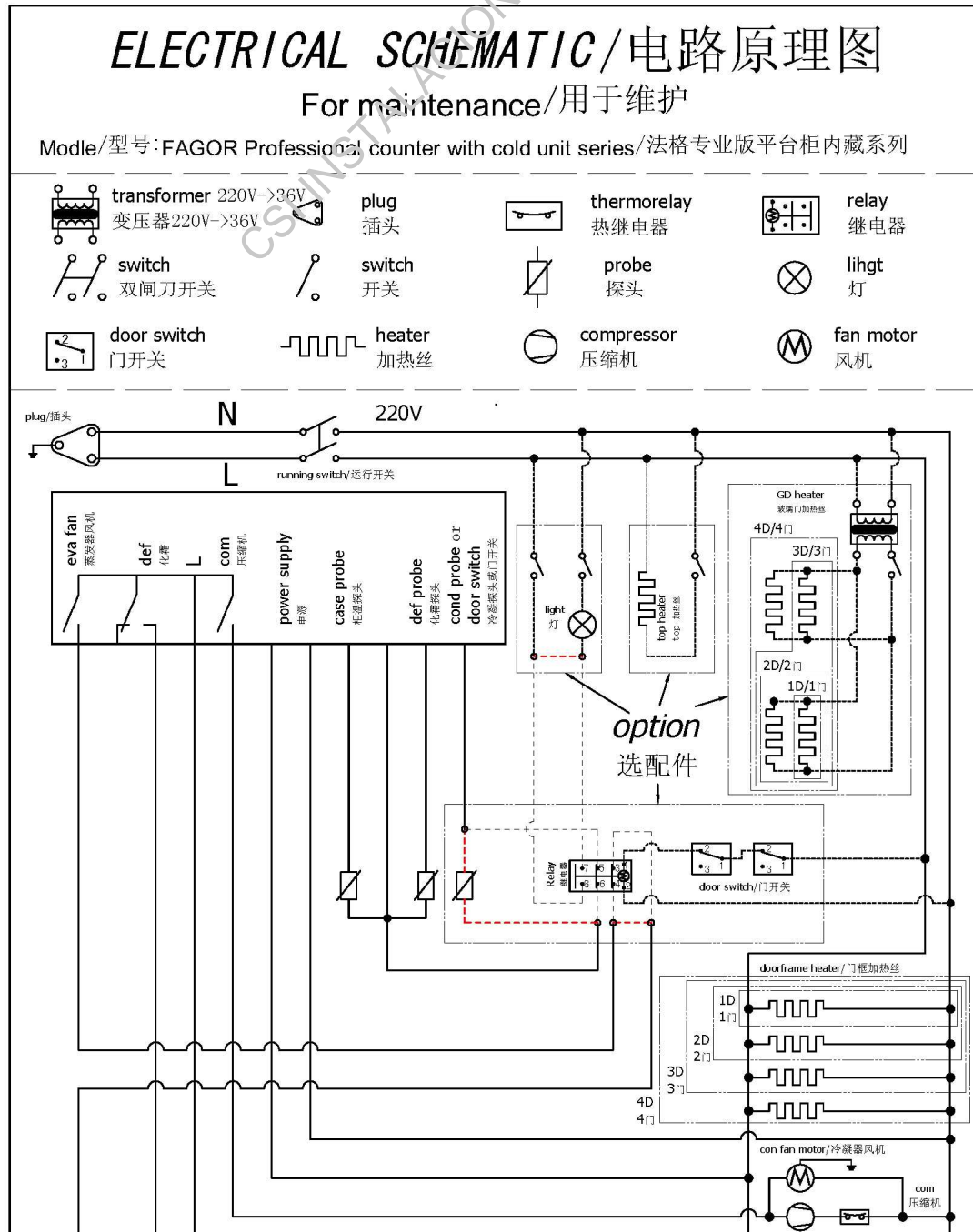


## 1.2 Feature Chart of Counters

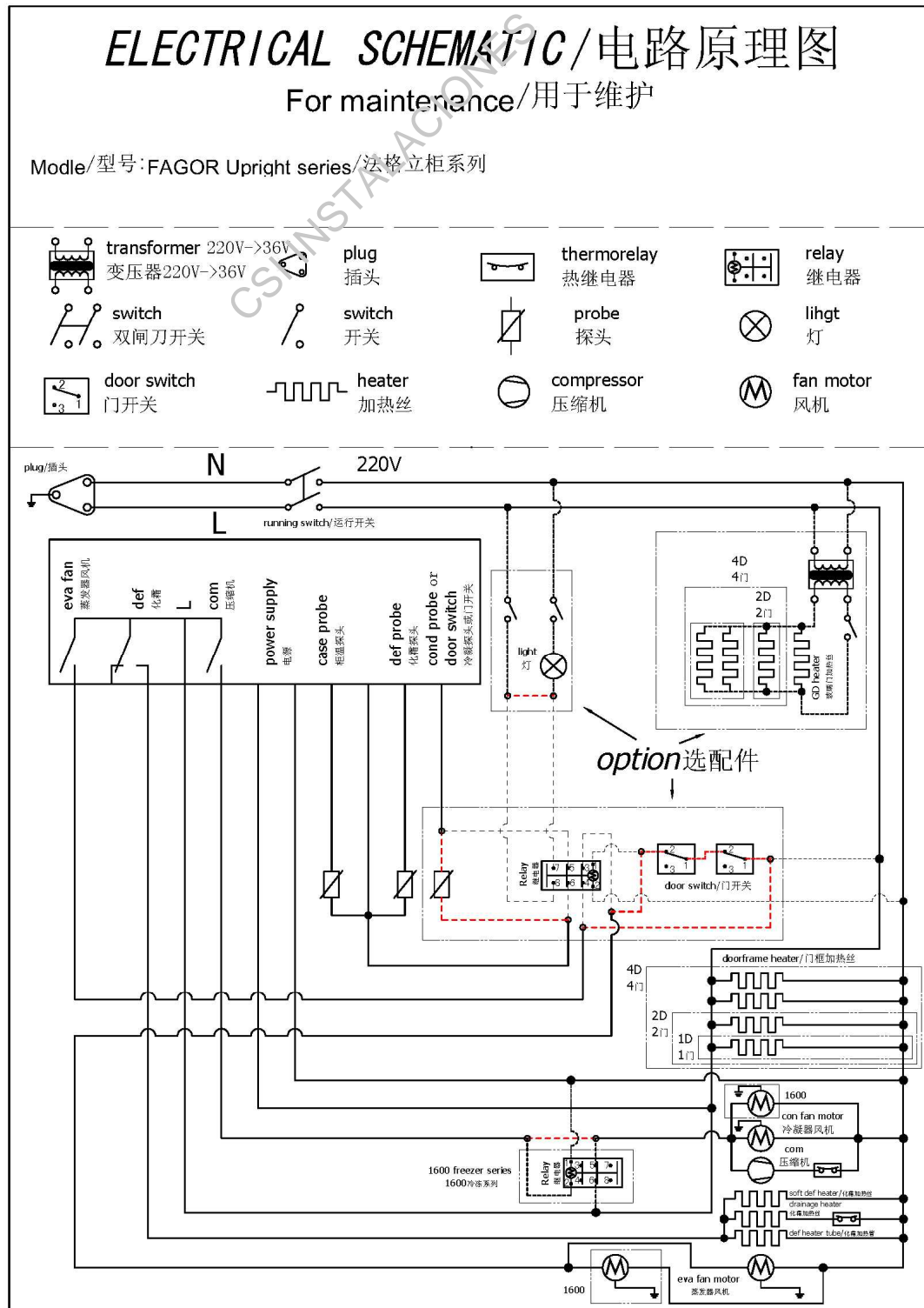


## 2. Wiring Diagram

### 2.1 FAGOR Professional counter with cold unit



## 2.2 FAGOR Professional Upright with cold unit



### 3. Part Details And Main Components

#### 3.1 Part Details and Main Components of Cabinet

Control panel



Condenser unit



## Evaporate unit



Evaporate unit



Heater tube

Evaporator



Evaporate fan and fan motor

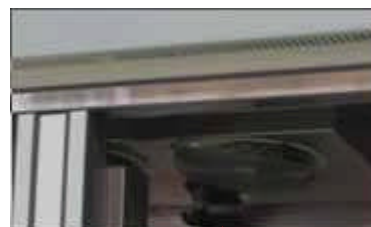
Evaporator cover

Heater line

## Internal accessories



Shelve



Drainage



### Solid door

Solid door

Gasket

Hinge support



### Glass door

Gasket

Hinge support

Glass door



### Support

Leg

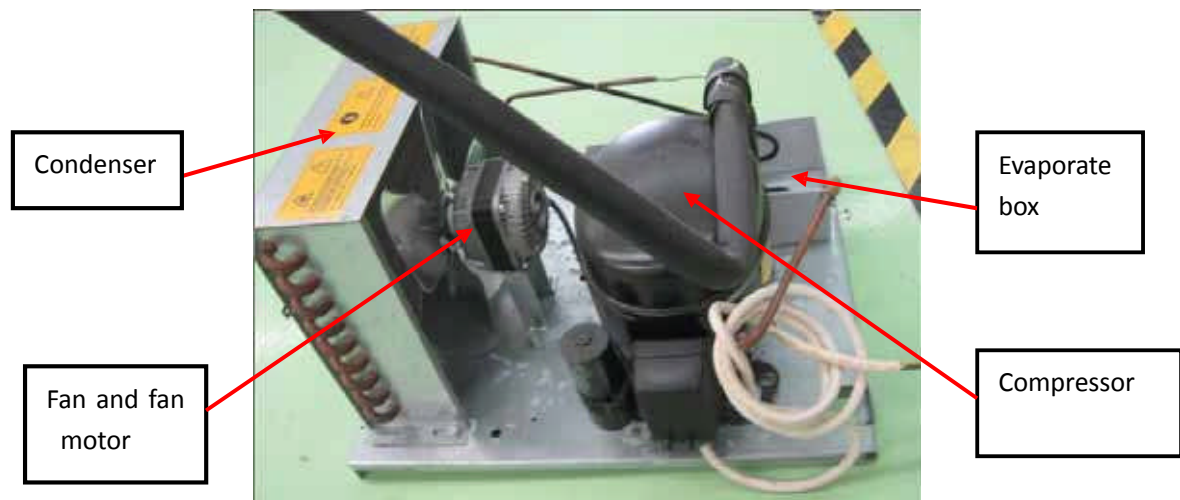


## 3.2 Part Details and Main Components of Counter

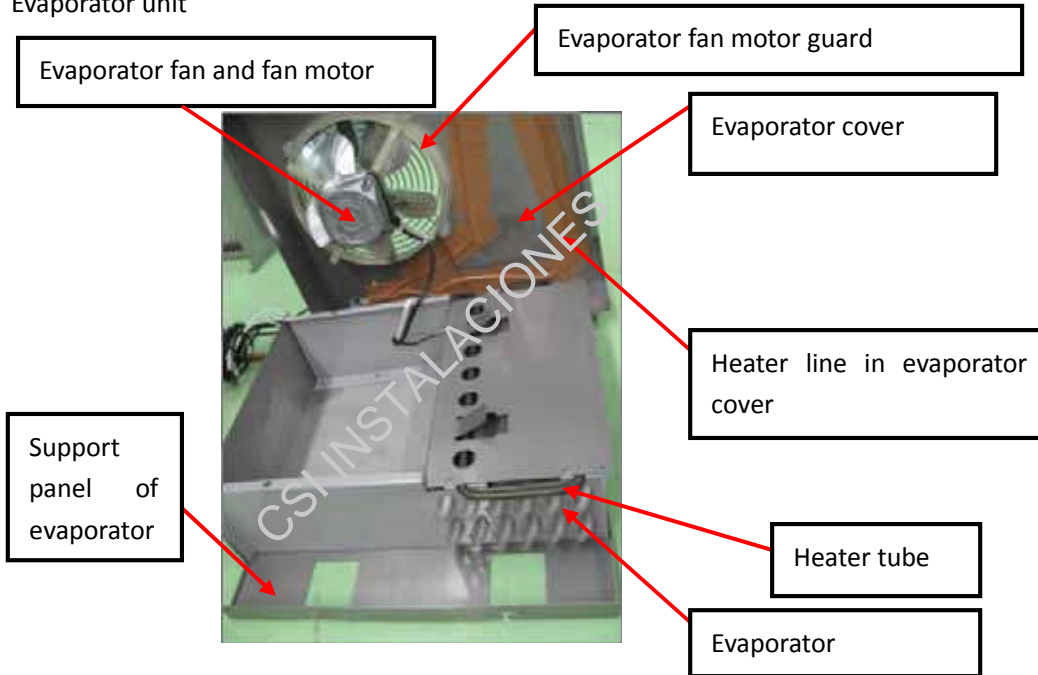
Control panel



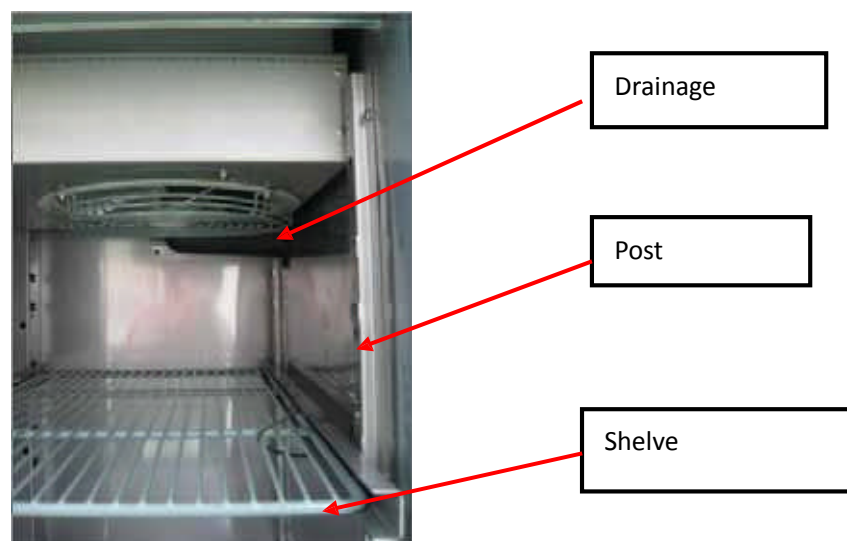
Condenser unit



### Evaporator unit



### Internal accessories

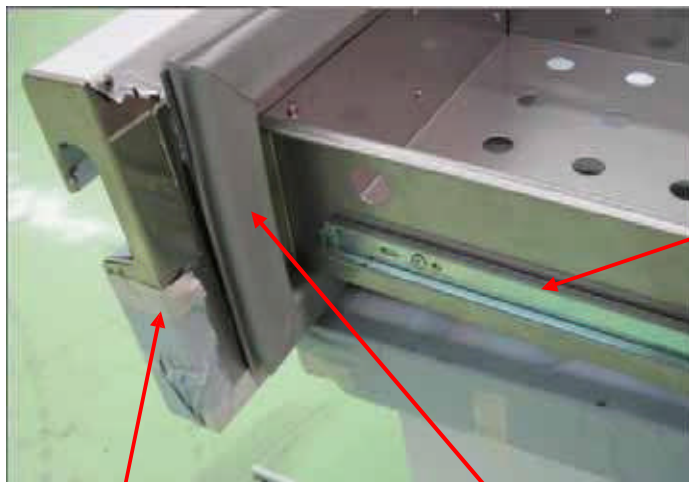


Drawers (We have two kinds of drawers in this series)



1/2 drawer

1/3 drawer

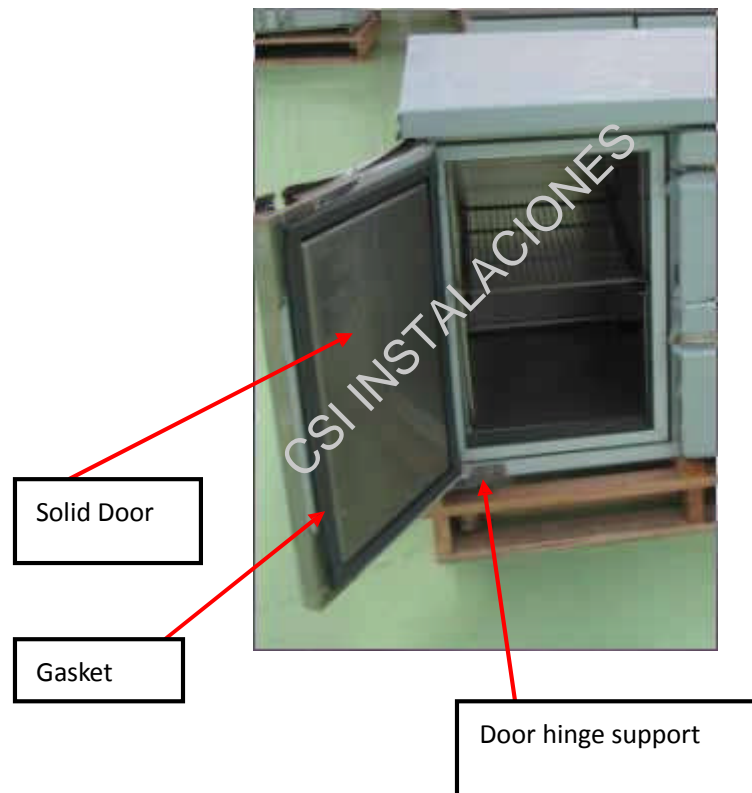


Front of drawer

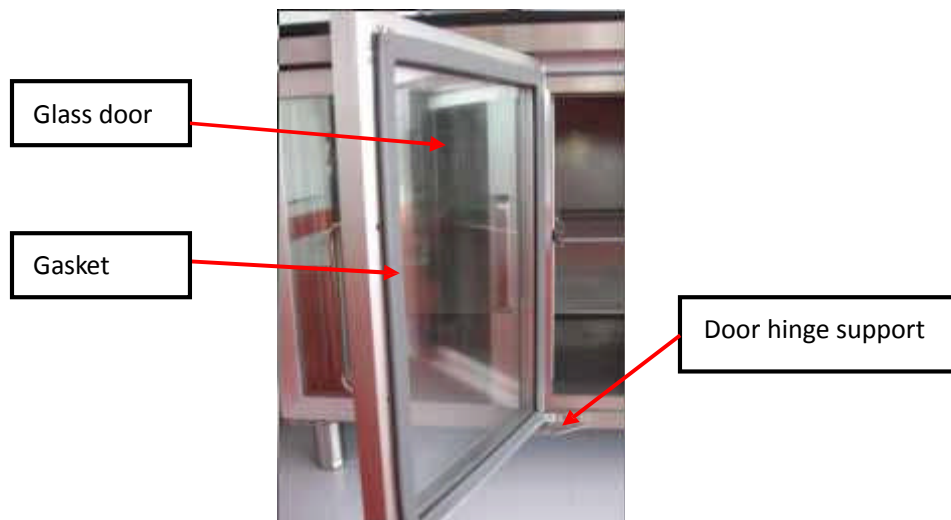
Gasket

Guide

## Door

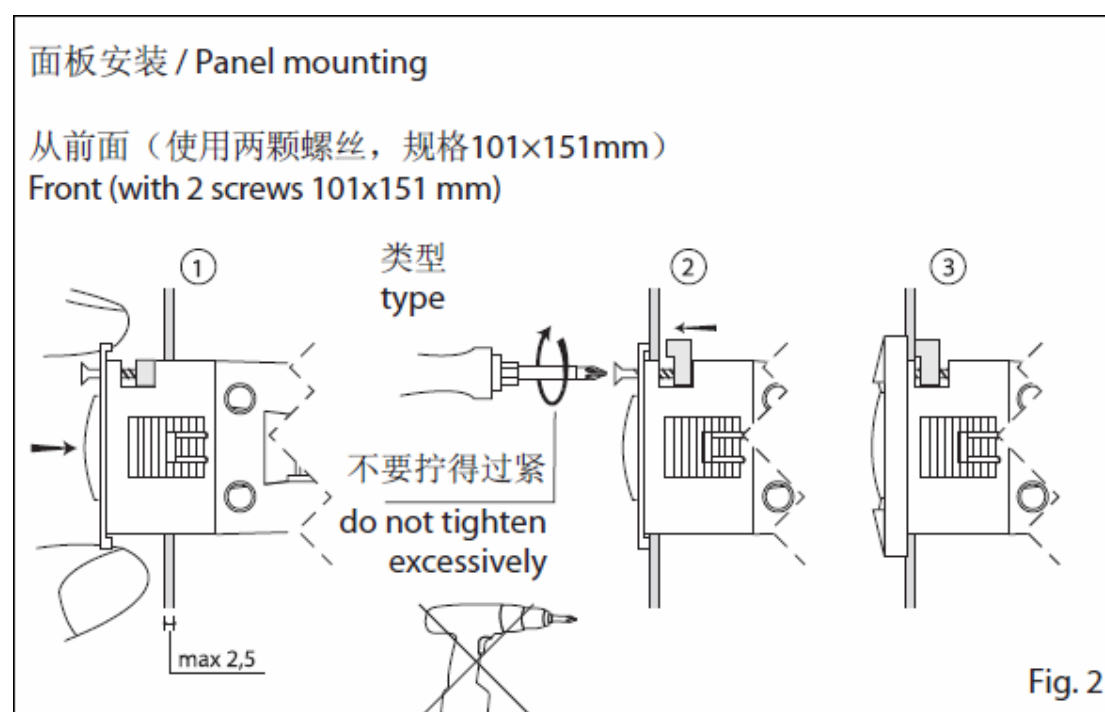
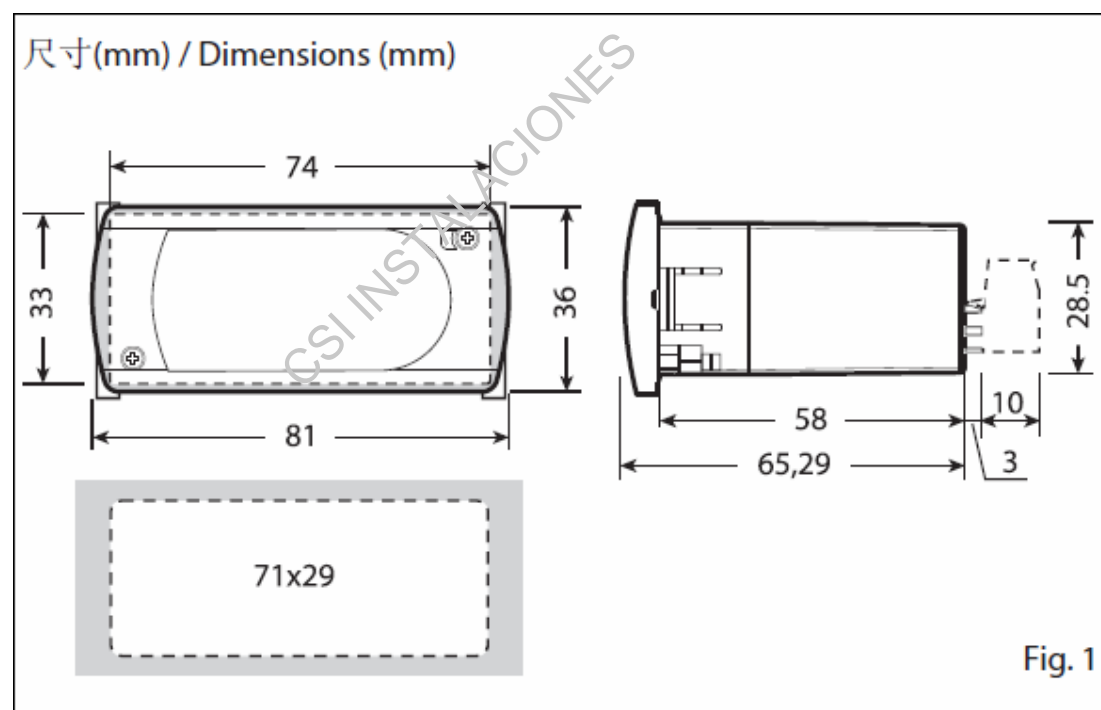


## Glass door



## 4. Electronic Controller Instruction

### 4.1 Instruction of Carle



后面（带两个快速安装侧面支架） / Rear (with 2 quick-fit side brackets)

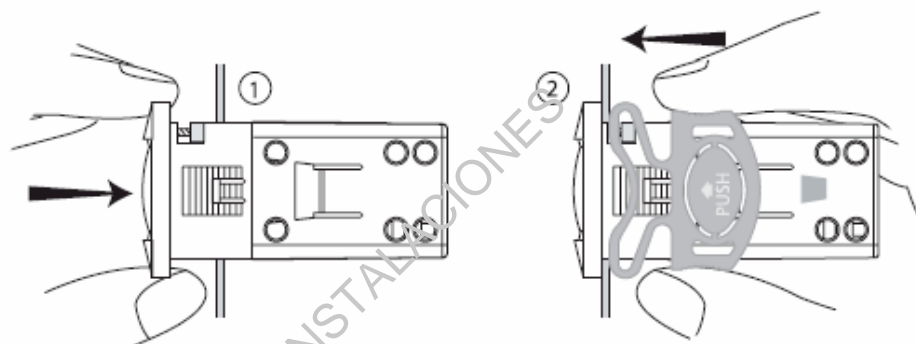
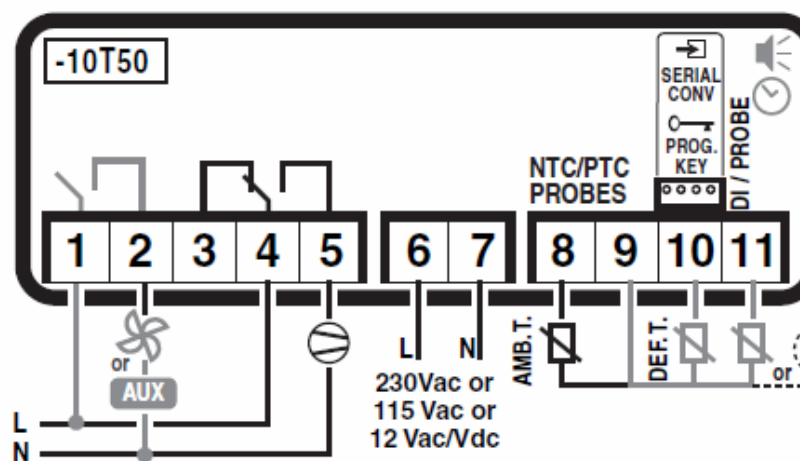


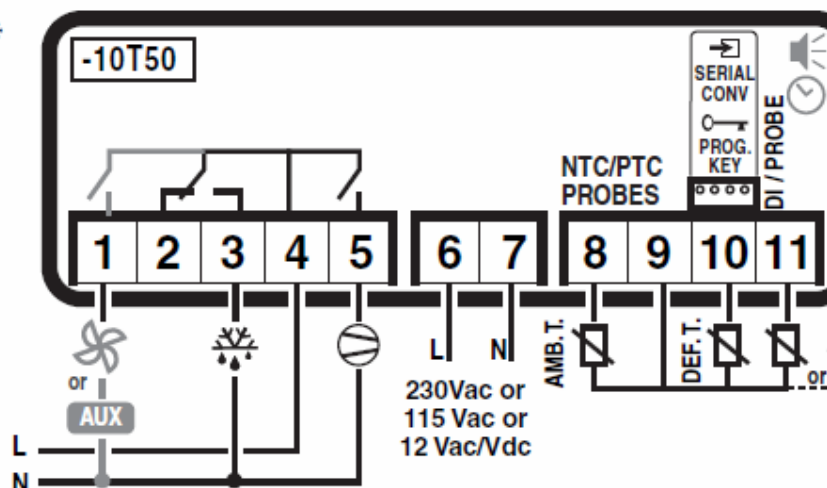
Fig. 3

电路连接 / Electrical connections

PJEZ(S, X)\*



PJEZ(C, Y)\*



PJEZ(M)\*

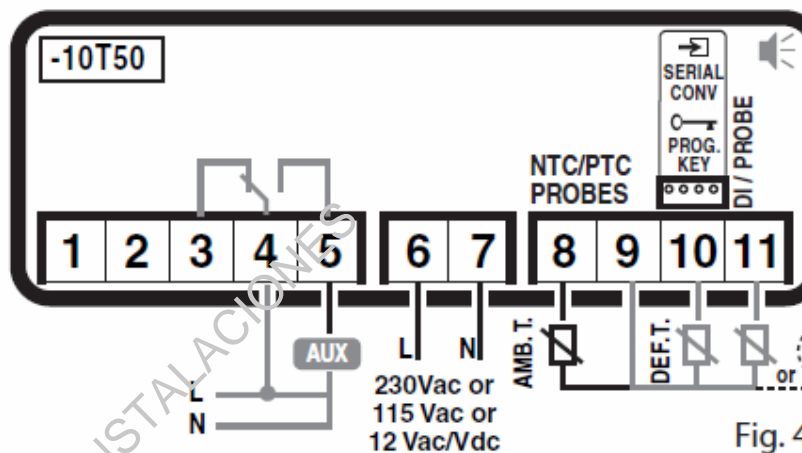


Fig. 4

Table of alarms

Alarm code	buzzer and alarm relay	LED	Description	Parameters involved
E0	active	ON	probe 1 error= control	-
E1	inactive	ON	probe 2 error= defrost	[d0 = 0 / 1]
E2	inactive	ON	probe 3 error= condenser	[A4=10]
IA	active	ON	external alarm	[A4 = 1] [+A7]
dOr	active	ON	open door alarm	[A4 = 7/8][+A7]
LO	active	ON	low temperature alarm	[AL] [Ad]
HI	active	ON	high temperature alarm	[AH] [Ad]
EE	inactive	ON	unit parameter error	-
EF	inactive	ON	operating parameter error	-
Ed	inactive	ON	defrost ended by timeout	[dP][dt][d4][A8]
dF	inactive	OFF	defrost running	[d6=0]
cht	inactive	ON	condenser dirty pre-alarm	[A4=10]
CHt	active	ON	condenser dirty alarm	[A4=10]
EtC	inactive	ON	clock alarm	if bands active





### Description

PJEZ\* (models S, C, Y and X) represent a range of electronic microprocessor controllers with LED display developed for the management of refrigerating units, display cabinets and showcases.

Models available:

- PJEZS\*, designed for the management of static refrigerating units, no fan on the evaporator, operating at temperatures above 0°C;
- PJEZC\*, designed for the management of low temperature ventilated refrigerating units.
- PJEZ(Y, X)\*, designed for the management of static refrigerating units, no fan, operating at low temperatures;
- PJEZM\*, simple solution for measuring the temperature.

Note: model Y= relays connected electronically internally; model X= independent relays.

### Technical specifications

power supply (*)	230 Vac +10 /-15% 50/60 Hz; 115 Vac +10 /-15% 50/60 Hz 12 Vac +10/-15% 50/60 Hz; 12 Vdc 11 to 16 Vdc
rated power	1,5 VA
inputs (*)	NTC or PTC probes 1 or 3 inputs. Digital input as alternative to third probe
relay outputs (*)	2 HP relay UL: 12 A Res. 12 FLA 72 LRA - 250 Vac, EN60730-1: 10(10) A 250 Vac (**) 16 A relay UL: 12 A Res. 5 FLA 30 LRA - 250 Vac C300, EN60730-1: 12(2) A NO/NC, 10(4) A up to 60 °C NO, 2(2) A CO - 250 Vac 8 A relay UL: 8 A Res. 2 FLA 12 LRA - 250 Vac C300, EN60730-1: 8(4) A NO, 6(4) A NC, 2(2) A CO - 250 Vac
type of probe (*)	Std CAREL NTC 10 KΩ at 25 °C, Std CAREL PTC 985 Ω at 25 °C
connections (*)	screw terminals for cables with cross-sect. from 0.5 mm <sup>2</sup> to 1.5 mm <sup>2</sup> . Plug-in terminals for screw blocks or with crimped contact (cable cross-sect. up to 2.5 mm <sup>2</sup> ). Rated maximum current per terminal 12 A.
assembly (*)	terminal: using screws from the front panel or with rear brackets. Interface: wall mounting, 4 screws, spacing 101x151 mm

display	3 digit LED display with sign (-199 to 999) and decimal point; six status LEDs
operating conditions	-10T50 °C - humidity <90% rH non-condensing
storage conditions	-20T70 °C - humidity <90% rH non-condensing
range of measurement	-50T90 °C (-58T194 °F) - resolution 0.1 °C/°F
frontpanelindexofprotection	panel installation with IP65 gasket
case	plastic terminal, 81x36x65 mm
classification according to protection against electric shock	Class II when suitably integrated
environmental pollution	normal
PTI of the insulating material	250 V
periodofstressacrosstheinsulating parts	long
category of resistance to heat and fire	category D (UL94 - V0)
immunity against voltage surges	category 1
type of action and disconnection	1C relay contacts
no. of relay automatic operating cycles (*)	EN60730-1: 100,000 operations UL: 30,000 operations (250 Vac)
software class and structure	Class A
cleaning the instrument	Only use neutral detergents and water.

cable max. lenght	serial: 1 km probes: 30 m relay: 10 m
<p><b>WARNING:</b> do not run the power cable less than 3 cm from the bottom part of the device or from the probes; for the connections only use copper wires. (*) The features indicated differ according to the model. (**) T OFF minimum time between two starts of the motor must be greater than 60 s.</p>	

## IMPORTANT WARNINGS

The CAREL product is a state-of-the-art device, whose operation is specified in the technical documentation supplied with the product or can be downloaded, even prior to purchase, from the website [www.carel.com](http://www.carel.com).

The customer (manufacturer, developer or installer of the final equipment) accepts all liability and risk relating to the configuration of the product in order to reach the expected results in relation to the specific final installation and/or equipment.

The failure to complete such phase, which is required/indicated in the user manual, may cause the final product to malfunction; CAREL accepts no liability in such cases.

The customer must use the product only in the manner described in the documentation relating to the product.

The liability of CAREL in relation to its products is specified in the CAREL general contract conditions, available on the website [www.carel.com](http://www.carel.com) and/or by specific agreements with customers.

Table of parameters

	Parameter		Min.	Max.	Def.	UOM	M <sup>1</sup>
PS	PASSWORD	F	0	200	22	-	.
/	PROBE PARAMETERS						
/2	Measurement stability	C	1	15	4	-	.
/4	Select probe/input displayed (*)	F	1	3	1	-	.
/5	Select °C / °F (0 = °C; 1 = °F)	C	0	1	0	-	.
/6	Disable decimal point	C	0	1	0	-	.
/7	Enable probe 2 alarm (PJEZM only)	C	0	1	0	-	.
/C1	Probe calibration	F	-12.7	12.7	0.0	°C/°F	.
/C2	Probe 2 calibration (*)	F	-12.7	12.7	0.0	°C/°F	.
/C3	Probe 3 calibration	F	-12.7	12.7	0.0	°C/°F	.
r	CONTROL PARAMETERS						
St	Control temperature	F	r1	r2	4.0	°C/°F	.
r1	Minimum set point allowed to the user	C	-50.0	r2		°C/°F	.
r2	Maximum set point allowed to the user	C	r1	150.0	90.0	°C/°F	.
r3	Operating mode 0= direct+defrost; 1= direct; 2= reverse	C	0	2	0	-	-
r4	Automatic night-time set point variation	C	-50.0	50.0	3.0	°C/°F	.
rd	Control differential (hysteresis)	F	0.0	19.0	2.0	°C/°F	.
c	COMPRESSOR PARAMETERS						
c0	Comp. and fan start delay after start-up	C	0	100	0	min	-

c1	Min. time between successive comp. starts	C	0	100	0	min	-
c2	Min. compressor off time	C	0	100	0	min	-
c3	Min. compressor on time	C	0	100	0	min	-
c4	Compressor safety (duty setting)	C	0	100	0	min	-
cc	Continuous cycle duration	C	0	15	4	h	-
c6	Alarm bypass time after cont. cycle	C	0	15	2	h	-
d	DEFROST PARAMETERS						
d0	Type of defrost (0= heater; 1= hot gas; 2= heater by time; 3= hot gas by time; 4= heater by time with temp. cont.)	C	0	4	0	-	-
dl	Interval between two defrosts	F	0	199	8	h/min	-
dt	End defrost temperature	F	50.0	127.0	4.0	°C/°F	-
dP	Max. or effective defrost duration	F	1	199	30	min/s	-
d4	Defrost when the instrument is switched on(1= activated)	C	0	1	0	-	-
d5	Defrost delay on start-up or from digital input	C	0	199	0	min	-
d6	Disable temperature display during defrost (1= display disabled)	C	0	1	1	-	-
dd	Dripping time after defrost	F	0	15	2	min	-
d8	Alarm bypass time after defrost	F	0	15	1	h	-
d9	Defrost priority over comp. protectors (0= protection time respected; 1= protection time not respected)	C	0	1	0	-	-
d/	Display defrost probe temp.	F	-	-	-	-	-

dc	Time base (for defrost only; 0= h/min;1=min/s)	C	0	1	0	-	-
A	ALARM PARAMETERS						
A0	Alarm and fan differential	C	-20.0	20.0	2.0	°C/°F	,
AL	Low temperature alarm threshold/deviation (AL= 0; alarm disabled)	F	-50.0	150.0	0	°C/°F	,
AH	High temperature alarm threshold/deviation (AH= 0; alarm disabled)	F	50.0	150.0	0	°C/°F	,
Ad	Low and high temperature alarm delay	C	0	199	0	min	,
A4	Digital input configuration 0= input not active; 1= exter. alarm, instant (A7= 0) or delayed (A7>0); 2= enable defrost (open=disabled); 3= start defrost on closing; 4= curtain switch or night-time operation (open= normal setpoint); 5= remote ON/OFF (open= OFF); 6= AUX output control [H1=3] (open = AUX de-energ.); 7= AUX output [H1=3] + FAN OFF control (closed) (open = AUX energised); 8= AUX output [H1=3] + FAN-OFF (closed) + COMP-OFF control (closed); (open= AUX energised); 9= select direct/reverse operation: r3=0 => open= direct + defrost; closed= reverse r3=1/2 => open= direct; closed= reverse 10= condenser probe; 11= product probe	C	0	11	0	-	,

A7	External alarm detection delay	C	0	199	0	min	.
A8	Enable alarm 'Ed': end defrost by timeout (1= enabled)	C	0	1	0	-	-
Ac	High condenser temperature alarm	C	-50.0	150.0	70.0	°C/°F	.
AE	High condenser temperature alarm differential	C	0.1	20.0	5.0	°C/°F	.
Acd	High condenser temperature alarm delay	C	0	250	0	min	.
F	FAN PARAMETERS (**)						
F0	Fan management: 0= fans on excluding specific phases; 1= fans on according to parameter F1 excluding specific phases (**)	C	0	1	0	-	-
F1	Fans shutdown temperature (**)	F	50.0	127.0	5.0	°C/°F	-
F2	Fans off when compressor off (**)	C	0	1	1	-	-
F3	Fans status during defrost (**) 0= fan ON; 1= fan OFF	C	0	1	1	-	-
Fd	Off for post-dripping. Active for each val. of F0 (**)	F	0	15	1	min	-
H	OTHER SETTINGS						
H0	Serial address	C	0	207	1	-	.

H1	AUX output configuration 0= no function associated with the output 1= alarm output usually energised 2= alarm output usually de-energised 3= auxiliary output driven by dig. input [A4=6/7/8] dig. input OPEN= AUX de-energised dig. input CLOSED= AUX energised	C	0	3	0	-	.
H2	Enable keypad 0= keypad disabled 1= keypad enabled 3= keypad enabled except for ON/OFF function	C	0	2	1	-	.
H4	Disable buzzer 0= buzzer enabled 1= buzzer disabled	C	0	1	0	-	.
H5	Key ID code from supervisor	F		199	1	-	.
EZY	Select Easy Set according to the model, see manual (see notes)	C	0	4	0	-	-
	RTC PARAMETERS						
tEn	Disable RTC	C	0	1	1	-	-
d1d	Defrost time band 1 day	C	0	11	0	days	-
d1h	Defrost time band 1 hours	C	0	23	0	h	-
d1m	Defrost time band 1 minutes	C	0	59	0	min	-
d2d	Defrost time band 2 day	C	0	11	0	days	-



d2h	Defrost time band 2 hours	C	0	23	0	h	-
d2m	Defrost time band 2 minutes	C	0	59	0	min	-
d3d	Defrost time band 3 day	C	0	11	0	days	-
d3h	Defrost time band 3 hours	C	0	23	0	h	-
d3h	Defrost time band 3 minutes	C	0	59	0	min	-
d4d	Defrost time band 4 day	C	0	11	0	days	-
d4h	Defrost time band 4 hours	C	0	23	0	h	-
d4m	Defrost time band 4 minute	C	0	59	0	min	-
nOd	"Night on" time band day	C	0	11	0	days	-
nOh	"Night on" time band hours	C	0	23	0	h	-
nOm	"Night on" time band minutes	C	0	59	0	min	-
nFd	"Night off" time band day	C	0	11	0	days	-
nFh	"Night off" time band hours	C	0	23	0	h	-
nFm	"Night off" time band minutes	C	0	59	0	min	-
AOd	"Aux on" time band day	C	0	11	0	days	-
AOh	"Aux on" time band hours	C	0	23	0	h	-
AOm	"Aux on" time band minutes	C	0	59	0	min	-
AFd	"Aux off" time band day	C	0	11	0	days	-
AFh	"Aux off" time band hours	C	0	23	0	h	-
AFm	"Aux off" time band minutes	C	0	59	0	min	-
dAY	RTC day of the week	C	1	7	1	days	-
hr	RTC hours	C	0	23	0	h	-
MIn	RTC minutes	C	0	59	0	min	-

<sup>1</sup> parameter available on model PJEZM\*: yes= √ ; no= -

(\*) parameters not available in PJEZS models with one probe.

(\*\*) parameters not available in PJEZS models

(\*\*\*) parameters not available on models without RTC

note: the "Easy Set" parameter is used to select one of 4 sets of quick configurations stored in the instrument, each containing a maximum of 25 parameters.

PJEZ(S, X)\*: EZY=1: normal temperature, no defrost

EZY=2: normal temperature with timed defrost

EZY=3: normal temperature, heating output

EZY=4: normal temperature, defrost controlled by temperature (d0=4)

PJEZ(C, Y)\*: EZY=1: low temperature with hot gas defrost

EZY=2: low temp. with automatic night-time setpoint variation via digital input

EZY=3: low temperature with management of alarm via digital input

EZY=4: low temperature, defrost controlled by temperature (d0=4).



### Display and functions

During normal operation, the controller displays the value of the probe set using parameter /4 (=1 ambient probe, default, =2 second probe, 3= third probe). In addition, the display has LEDs that indicate the activation of the control functions (see Table 1), while the 3 buttons can be used to activate/deactivate some of the functions (see Table 2).

### LEDs and associated functions

icon	function	normal operation			start up
		ON	OFF	blink	
	compressor	on	off	request	ON
	fan	on	off	request	ON
	defrost	on	off	request	ON
AUX	aux	output on	output off	-	ON
	alarm	all	no alarm	-	ON
	clock	RTC fitted and enabled, at least 1 time band set	RTC not fitted or disabled, not even 1 time band set	-	ON if RTC fitted

Tab. 1

Table of functions activated by the buttons - models S, X, Y, C

button		normal operation		start up	
		pressing the button alone	pressed together		
	up ON/OFF	more than 3 s: toggle ON/OFF	Pressed together start/stop continuous cycle	-	
	down defrost	more than 3 s: start/stop defrost		Pressed together start parameter reset procedure	for 1 s display firmware vers. code for 1 s RESET current EZY set
	setmute	- 1 s.: display/set the set point - more than 3 s: access parameter setting menu (enter password '22') - mute audible alarm (buzzer)	-		

Tab. 2

Table of button functions - variant model M

button	normal operation	start up	
	rapid selection of probe displayed	Pressed together "set" start parameter reset procedure	for 1 s display firmware vers. code

Tab. 3

### Setting the set point (desired temperature)

- press SET for 1 s, the set value will start flashing after a few moments;
- increase or decrease the value using UP or DOWN;
- press SET to confirm the new value.



#### Switching the device ON/OFF

Press UP for more than 3 s. The control and defrost algorithms are now disabled and the instrument displays the message "OFF" alternating with the temperature read by the set probe.

#### Manual defrost (models S, X, Y and C only)

Press for DOWN more than 3 s (the defrost starts only the temperature conditions are valid).

#### Continuous cycle (models S, X, Y and C only)

Press UP and DOWN together for more than 3 s.

#### Rapid selection of probe displayed (model M only)

Press DOWN briefly to select the probe to be temporarily displayed.

#### Access and setting type F (frequency) and type C (configuration) parameters

1. press SET for 3 s (the display will show "PS");
2. • to access the type F and C parameter menu, enter the password "22" using UP/DOWN;  
• to access the F parameter menu only, press SET (without entering the password);  
scroll inside the parameter menu using UP/DOWN;
4. • to display/set the values of the parameter displayed, press SET, then UP/DOWN and finally SET to confirm the changes (returning to the parameter menu).

To save all the new values and exit the parameter menu, press SET for 3 s;

To exit the menu without saving the changed values (exit by timeout) do not press any button for at least 60 s.

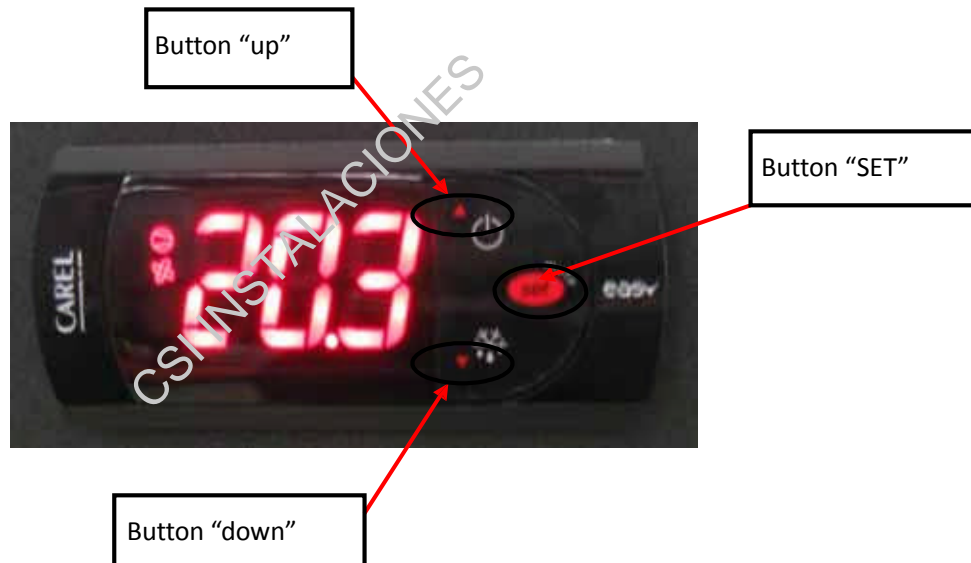
#### Safety standards

compliant with the relevant European standards. Installation precautions:

- the connection cables must guarantee insulation up to 90 °C;
- for 12 Vac versions use Class II transformers. To ensure compliance with the immunity standards (surge), the transformer must be one of the models specified (see the CAREL price list). To ensure double insulation between the power connectors and the relay outputs, earth the secondary winding;
- ensure a space of at least 10 mm between the case and the nearby conductive parts;
- digital and analogue input connections less than 30 m away; adopt suitable measures for separating the cables so as to ensure compliance with the immunity standards;

Secure the connection cables of the outputs so as to avoid contact with very low voltage parts.

## 4.2 Fagor parameters



Power on the equipment more than 10 seconds, press "SET" button 2 to 3 seconds to enter 'costumer' setting, and adjust the setting temperature (ST) by "UP" and "DOWN" arrow buttons, after adjusting, press "SET" to confirm and save the adjustment.

Press "SET" more than 7 seconds, "PS" flashes onto the screen, enter 'after service' setting, press "UP" to select parameters in the following list with gray background, "DOWN" is in the reverse sequence. Press "SET" to adjust the parameters by "UP" and "DOWN", then confirm by "SET". After finishing all the setting items, and press "SET" more than 7s to save and quit the adjustment.

When "PS" flashes, press "SET" to input the password "22" by "UP" and "DOWN", confirm PS by "SET" to enter 'professional' setting, press "UP" to select parameters in the following list, "DOWN" also is reverse. Press "SET" to adjust the parameter by "UP" and "DOWN", then confirm by "SET". After finishing all the settings, and press "SET" more than 7s to save the adjustment.

**Notice:** The default controlling status of the thermostat is on, press "UP" less than 2s, "off" will be displayed on the screen, release "UP", the thermostat will recover to display the real-time temperature; if H2=1, press "UP" more than 3s, "off" and temperature will be displayed alternately, controlling function will be turned off, press "UP" less than 2s, "on" will be displayed, press "UP" more than 3s, the controlling function will be turned on again.

## Thermostat settings for FAGOR chiller

Level	Param	Setting	Description	Comment
Customer	ST	<b>2.0</b>	Setting temperature (1~12°C)	
After service	PS	-	PS flash on the screen	Input the password "22" to enter professional setting
Professional	PS	22	Set password 22 (1~200)	Input any number to change the password
Professional	/2	4	Stability and sensitivity of the probe(1~15)	Larger number, more stability, but less sensitivity
Professional	/4	<b>1</b>	Select the sensor to display the temperature (1,2,3)	1= internal; 2= evaporator; 3= condenser (if exist)
Professional	/5	<b>0</b>	Select °C / °F (0,1)	0=°C; 1=°F
Professional	/6	0	Precision of temperature (0,1)	0= display the first number after decimal point; 1= disable the decimal point
After ser.&pro.	/C1	<b>-2.0</b>	Internal temp. probe1 calibration (-12.7~12.7°C)	Calibrate the temperature according the real difference
Professional	/C2	0.0	Evaporator temp. probe2 calibration (-12.7~12.7°C)	
Professional	/C3	0.0	Condenser temp. probe3 calibration (-12.7~12.7°C)	
After ser.&pro.	rd	<b>4.0</b>	Control differential (0~19.0°C)	Internal temperature exceeds the setting value by 4 degrees, the compressor start running
Professional	r1	<b>-2.0</b>	Minimum setting (-50.0~12.0°C)	Lower limit of the internal temperature
Professional	r2	<b>10.0</b>	Maximum setting (1~150.0°C)	Upper limit of the internal temperature
Professional	r3	<b>0</b>	Direct/reverse (freeze/heat) operating mode (0,1,2)	0= direct+defrost; 1= direct; 2= reverse
Professional	r4	2.0	Energy saving mode (-50.0~50.0°C)	[A4=4 and close] r4=0, disable; r4>0, energy saving temperature=ST+r4
Professional	c0	3	Comp. and fan start delay after start-up (0~100min)	To prevent frequent start when first turned on
Professional	c1	5	Min.time between successive comp.starts (0~100min)	
Professional	c2	2	Minimum compressor off time (0~100min)	
Professional	c3	2	Minimum compressor on time (0~100min)	
Professional	c4	10	Compressor duty setting (0~100min)	[Probe failure] c4=0, comp. stop; 0<c4<100, enable; c4=100, comp. keep running all along
Professional	cc	0	Forced continuous cycle duration (0~15h)	cc=0, disable; cc>0, enable
Professional	c6	2	Alarm bypass time after continuous cycle (0~15h)	disable; [cc=0, after continuous cycle duration, internal temp. probe1≤AL] enable
Professional	d0	<b>0</b>	Type of defrost (0,1,2,3,4)	0 = heater by time + temp.; 1= hot gas by time + temp.; 2= heater by time; 3= hot gas by time; 4= heater by time + constant temp.
After ser.&pro.	dl	<b>6</b>	Interval between two defrosts (0~199h)	dl=0, defrost is disabled; dl>0, defrost is enabled
After ser.&pro.	dt	<b>15.0</b>	End defrost temperature (-50.0~127.0°C)	Evaporator temperature probe2≥dt, defrost is disabled or stopped
After ser.&pro.	dp	<b>30</b>	Maximum defrost duration (1~199min)	
Professional	d4	<b>1</b>	Defrost when the instrument is switched on (0,1)	1 = yes; 0 = no
Professional	d5	<b>0</b>	Defrost delay (0~199min)	
Professional	d6	0	Disable temperature display during defrost (0,1)	0 = display "df" and tempraw alternately; 1 = display the locked temp. before defrost
Professional	dd	3	Dripping time after defrost (0~15min)	
Professional	d8	<b>1</b>	Alarm bypass time after defrost (0~15h)	
Professional	d9	0	Defrost priority over comp. protectors (0,1)	0 = protection time respected; 1= protection time not respected
After ser.&pro.	d/	-	Display defrost probe temp.	Real-time temperature probe 2
Professional	dC	<b>0</b>	Time base(for defrost only) (0,1)	0 = h/min; 1 = min/s
Professional	A0	<b>2.0</b>	Alarm mode and differential (-20.0~20.0°C)	A0≤0, absolute temperature alarm; A0>0, relative temperature alarm
Professional	AL	<b>5.0</b>	Low temperature alarm configuration (-50.0~150.0°C)	[A0≤0] probe1≤AL, alarm on; probe1>AL-A0, alarm off; AL=-50, AL disable [A0>0] probe1≤ST-AL, alarm on; probe1>ST-AL+A0, alarm off; AL=0, AL disable
Professional	AH	<b>10.0</b>	High temperature alarm configuration (-50.0~150.0°C)	[A0≤0] probe1≥AH, alarm on; probe1<AH+A0, alarm off; AH=150, AH disable [A0>0] probe1≥ST+AH, alarm on; probe1<ST+AH-A0, alarm off; AH=0, AH disable
Professional	Ad	<b>100</b>	Low and high temperature alarm delay (0~199min)	
Professional	A4	<b>10</b>	External input configuration (0,1,2,3,4,5,6,7,8,9,10,11)	0= disable; 1= exter. alarm (open = alarm); 2= input to enable inter. defrost (open = disable); 3= [dl=0] exter. defrost (close = start defrosting, display probe2); 4= energy saving mode (close = enable); 5= remote ON/OFF (close = ON); 6=[H1=3] input to control AUX (open = AUX de-energised); 7=[H1=3] door open alarm and fan on/off (open = door open = AUX & fans de-energ., after A7&d8, fans restore running + "dor" flash + alarm); 8=7+ comp.control; 9= input to select direct/reverse operation (open = direct, [r3=0]with defrost); 10= condenser probe; 11= product probe
Professional	A7	2	External alarm detection delay (0~199min)	A7= 0, instant alarm; A7>0, delayed A7
Professional	A8	0	Enable alarm "ed":end defrost by dp timeout (0,1)	0= disable; 1= enable
Professional	Ac	65.0	High cond.temp.alarm (-50.0~150.0°C)	[A4=10] enable, probe3≥Ac, "ChH" flash, condenser blocked, after cleaning, manual reset
Professional	AE	5.0	High cond.temp.alarm differential (0.1~20.0°C)	[A4=10] enable, probe3≥Ac-AE/2, "ChH" flash and alarm; probe3<Ac-AE, self-resetting
Professional	Acd	5	High cond.temp.alarm delay (0~250min)	[A4=10] enable
Professional	F0	<b>0</b>	Fan management, dd&Fd&c0 respected (0,1)	0= fans on ; 1= fans on according to parameter F1&F2&F3
After ser.&pro.	F1	<b>5.0</b>	fans shutdown temperature (-50.0~127.0°C)	[F0=1] probe1≥F1, fans off; probe1<F1-A0, fans on
Professional	F2	1	fans status when compressor off (0,1)	[F0=1]0= on; 1= off
Professional	F3	<b>1</b>	fans status during defrost (0,1)	0= on; 1= off
Professional	Fd	2	Dripping time (0~15min)	During Fd, fans off
Professional	H0	1	Serial address (0,1,2~207)	Remote control or maintenance
Professional	H1	0	AUX output configuration (0,1,2,3)	0= disable; 1= de-energised when alarm; 2= energised when alarm; 3= driven by open/close input
After ser.&pro.	H2	<b>2</b>	Keypad (0,1,2)	0= disable; 1= enable; 2= keypad enabled, ON/OFF disabled
Professional	H4	<b>0</b>	Buzzer (0,1)	0= enable; 1= disable
Professional	H5	-	Display ID code from supervisor (0,1,2~31)	
Professional	EZY	0	Select Easy Set according to the model,see manual	

## Thermostat settings for FAGOR freezer

Level	Param	Setting	Description	Comment
Customer	ST	<b>-22.0</b>	Setting temperature (r1~r2°C)	
After service	PS	-	PS flash on the screen	Input the password "22" to enter professional setting
Professional	PS	22	Set password 22 (1~200)	Input any number to change the password
Professional	/2	4	Stability and sensitivity of the probe(1~15)	Larger number, more stability, but less sensitivity
Professional	/4	<b>1</b>	Select the sensor to display the temperature (1,2,3)	1= internal; 2= evaporator; 3= condenser (if exist)
Professional	/5	<b>0</b>	Select °C / °F (0,1)	0=°C; 1=°F
Professional	/6	0	Precision of temperature (0,1)	0= display the first number after decimal point; 1= disable the decimal point
After ser.&pro.	/C1	<b>-2.0</b>	Internal temp. probe1 calibration (-12.7~12.7°C)	Calibrate the temperature according the real difference
Professional	/C2	0.0	Evaporator temp. probe2 calibration (-12.7~12.7°C)	
Professional	/C3	0.0	Condenser temp. probe3 calibration (-12.7~12.7°C)	
After ser.&pro.	rd	<b>4.0</b>	Control differential (r~r2.0°C)	Internal temperature exceeds the setting value by 4 degrees, the compressor start running
Professional	r1	<b>-22.0</b>	Minimum setting (-50.0~r2°C)	Lower limit of the internal temperature
Professional	r2	<b>-18.0</b>	Maximum setting (r1~150.0°C)	Upper limit of the internal temperature
Professional	r3	<b>0</b>	Direct/Reverse (freeze/heat) operating mode (0,1,2)	0= direct+defrost; 1= direct; 2= reverse
Professional	r4	2.0	Energy saving mode (-50.0~50.0°C)	[A4=4 and close] r4=0, disable; r4>0, energy saving temperature=ST+r4
Professional	c0	3	Comp. and fan start delay after start-up (0~100min)	To prevent frequent start when first turned on
Professional	c1	5	Min.time between successive comp.starts (0~100min)	
Professional	c2	2	Minimum compressor off time (0~100min)	
Professional	c3	2	Minimum compressor on time (0~100min)	
Professional	c4	10	Compressor duty setting (0~100min)	[Probe failure] c4=0, comp. stop; 0<c4<100, enable; c4=100, comp. keep running all along
Professional	cc	0	Forced continuous cycle duration (0~15h)	cc=0, disable; cc>0, enable
Professional	c6	2	Alarm bypass time after continuous cycle (0~15h)	disable; [cc=0, after continuous cycle duration, internal temp. probe1≤AL] enable
Professional	d0	<b>0</b>	Type of defrost (0,1,2,3,4)	0 = heater by time + temp.; 1= hot gas by time + temp.; 2= heater by time; 3= hot gas by time; 4= heater by time + constant temp.
After ser.&pro.	dl	<b>4</b>	Interval between two defrosts (0~199h)	dl=0, defrost is disabled; dl>0, defrost is enabled
After ser.&pro.	dt	<b>15.0</b>	End defrost temperature (-50.0~127.0°C)	Evaporator temperature probe2≥dt, defrost is disabled or stopped
After ser.&pro.	dp	<b>30</b>	Maximum defrost duration (1~199min)	
Professional	d4	<b>1</b>	Defrost when the instrument is switched on (0,1)	1 = yes; 0 = no
Professional	d5	<b>0</b>	Defrost delay (0~199min)	
Professional	d6	0	Disable temperature display during defrost (0,1)	0 = display "df" and tempraw alternately; 1 = display the locked temp. before defrost
Professional	dd	3	Dripping time after defrost (0~15min)	
Professional	d8	<b>1</b>	Alarm bypass time after defrost (0~15h)	
Professional	d9	0	Defrost priority over comp. protectors (0,1)	0 = protection time respected; 1= protection time not respected
After ser.&pro.	d/	-	Display defrost probe temp.	Real-time temperature probe 2
Professional	dC	<b>0</b>	Time base(for defrost only) (0,1)	0 = h/min; 1 = min/s
Professional	A0	<b>2.0</b>	Alarm mode and differential (-20.0~20.0°C)	A0≤0, absolute temperature alarm; A0>0, relative temperature alarm
Professional	AL	<b>5.0</b>	Low temperature alarm configuration (-50.0~150.0°C)	[A0≤0] probe1≤AL, alarm on; probe1>AL-A0, alarm off; AL=-50, AL disable [A0>0] probe1≤ST-AL, alarm on; probe1>ST-AL+A0, alarm off; AL=0, AL disable
Professional	AH	<b>10.0</b>	High temperature alarm configuration (-50.0~150.0°C)	[A0≤0] probe1≥AH, alarm on; probe1<AH+A0, alarm off; AH=150, AH disable [A0>0] probe1≥ST+AH, alarm on; probe1<ST+AH+A0, alarm off; AH=0, AH disable
Professional	Ad	<b>100</b>	Low and high temperature alarm delay (0~199min)	
Professional	A4	<b>10</b>	External input configuration (0,1,2,3,4,5,6,7,8,9,10,11)	0= disable; 1= exter. alarm (open = alarm); 2= input to enable inter. defrost (open = disable); 3= [dl=0] exter. defrost (close = start defrosting, display probe2); 4= energy saving mode (close = enable); 5= remote ON/OFF (close = ON); 6=[H1=3] input to control AUX (open = AUX de-energised; 7=[H1=3] door open alarm and fan on/off (open = door open = AUX & fans de-energ., after A7&d8, fans restore running + "dor" flash + alarm); 8=7+ comp.control; 9= input to select direct/reverse operation (open = direct, [r3=0]with defrost); 10= condenser probe; 11= product probe
Professional	A7	2	External alarm detection delay (0~199min)	A7= 0, instant alarm; A7>0, delayed A7
Professional	A8	0	Enable alarm "ed":end defrost by dp timeout (0,1)	0= disable; 1= enable
Professional	Ac	65.0	High cond.temp.alarm (-50.0~150.0°C)	[A4=10] enable, probe3≥Ac, "CHt" flash, condenser blocked, after cleaning, manual reset
Professional	AE	5.0	High cond.temp.alarm differential (0.1~20.0°C)	[A4=10] enable, probe3≥Ac-AE/2, "CHt" flash and alarm; probe3<Ac-AE, self-resetting
Professional	Acd	5	High cond.temp.alarm delay (0~250min)	[A4=10] enable
Professional	F0	<b>0</b>	Fan management, dd&Fd&c0 respected (0,1)	0= fans on ; 1= fans on according to parameter F1&F2&F3
After ser.&pro.	F1	5.0	fans shutdown temperature (-50.0~127.0°C)	[F0=1] probe1≥F1, fans off; probe1<F1-A0], fans on
Professional	F2	1	fans status when compressor off (0,1)	[F0=1]0= on; 1= off
Professional	F3	<b>1</b>	fans status during defrost (0,1)	0= on; 1= off
Professional	Fd	2	Dripping time (0~15min)	During Fd, fans off
Professional	H0	1	Serial address (0,1,2~207)	Remote control or maintenance
Professional	H1	0	AUX output configuration (0,1,2,3)	0= disable; 1= de-energised when alarm; 2= energised when alarm; 3= driven by open/close input
After ser.&pro.	H2	<b>2</b>	Keypad (0,1,2)	0= disable; 1= enable; 2= keypad enabled, ON/OFF disabled
Professional	H4	<b>0</b>	Buzzer (0,1)	0= enable; 1= disable
Professional	H5	-	Display ID code from supervisor (0,1,2~31)	
Professional	EZY	0	Select Easy Set according to the model,see manual	

## Thermostat settings for FAGOR chiller GD

Level	Param	Setting	Description	Comment
Customer	ST	2.0	Setting temperature (r1~r2°C)	
After service	PS	-	PS flash on the screen	Input the password "22" to enter professional setting
Professional	PS	22	Set password 22 (1~200)	Input any number to change the password
Professional	/2	4	Stability and sensitivity of the probe(1~15)	Larger number, more stability, but less sensitivity
Professional	/4	1	Select the sensor to display the temperature (1,2,3)	1= internal; 2= evaporator; 3= condensor (if exist)
Professional	/5	0	Select °C / °F (0,1)	0=°C; 1=°F
Professional	/6	0	Precision of temperature (0,1)	0= display the first number after decimal point; 1= disable the decimal point
After ser.&pro.	/C1	-2.0	Internal temp. probe1 calibration (-12.7~12.7°C)	Calibrate the temperature according the real difference
Professional	/C2	0.0	Evaporator temp. probe2 calibration (-12.7~12.7°C)	
Professional	/C3	0.0	Condenser temp. probe3 calibration (-12.7~12.7°C)	
After ser.&pro.	rd	4.0	Control differential (0~19.9°C)	Internal temperature exceeds the setting value by 4 degrees, the compressor start running
Professional	r1	1.0	Minimum setting (-50.0~12.7°C)	Lower limit of the internal temperature
Professional	r2	10.0	Maximum setting (-150.0~0.0°C)	Upper limit of the internal temperature
Professional	r3	0	Direct/reverse (freeze/heat) operating mode (0,1,2)	0= direct+defrost; 1= direct; 2= reverse
Professional	r4	2.0	Energy saving mode (-50.0~50.0°C)	[A4=4 and close] r4=0, disable; r4>0, energy saving temperature=ST+r4
Professional	c0	3	Comp. and fan start delay after start-up (0~100min)	To prevent frequent start when first turned on
Professional	c1	5	Min.time between successive comp.starts (0~100min)	
Professional	c2	2	Minimum compressor off time (0~100min)	
Professional	c3	2	Minimum compressor on time (0~100min)	
Professional	c4	10	Compressor duty setting (0~100min)	[Probe failure] c4=0, comp. stop; 0<c4<100, enable; c4=100, comp. keep running all along
Professional	cc	0	Forced continuous cycle duration (0~15h)	cc=0, disable; cc>0, enable
Professional	c6	2	Alarm bypass time after continuous cycle (0~15h)	disable; [cc=0, after continuous cycle duration, internal temp. probe1≤AL] enable
Professional	d0	0	Type of defrost (0,1,2,3,4)	0 = heater by time + temp.; 1= hot gas by time + temp.; 2= heater by time; 3= hot gas by time; 4= heater by time + constant temp.
After ser.&pro.	dl	6	Interval between two defrosts (0~199h)	dl=0, defrost is disabled; dl>0, defrost is enabled
After ser.&pro.	dt	15.0	End defrost temperature (-50.0~127.0°C)	Evaporator temperature probe2≥dt, defrost is disabled or stopped
After ser.&pro.	dp	30	Maximum defrost duration (1~199min)	
Professional	d4	1	Defrost when the instrument is switched on (0,1)	1 = yes; 0 = no
Professional	d5	0	Defrost delay (0~199min)	
Professional	d6	0	Disable temperature display during defrost (0,1)	0 = display "d" and tempraw alternately; 1 = display the locked temp. before defrost
Professional	dd	3	Dripping time after defrost (0~15min)	
Professional	d8	1	Alarm bypass time after defrost (0~15h)	
Professional	d9	0	Defrost priority over comp. protectors (0,1)	0 = protection time respected; 1= protection time not respected
After ser.&pro.	d/	-	Display defrost probe temp.	Real-time temperature probe 2
Professional	dC	0	Time base(for defrost only) (0,1)	0 = h/min; 1 = min/s
Professional	A0	2.0	Alarm mode and differential (-20.0~20.0°C)	A0≤0, absolute temperature alarm; A0>0, relative temperature alarm
Professional	AL	5.0	Low temperature alarm configuration (-50.0~150.0°C)	[A0≤0] probe1≤AL, alarm on; probe1>AL-A0, alarm off; AL=-50, AL disable [A0>0] probe1≤ST-AL, alarm on; probe1>ST-AL+A0, alarm off; AL=0, AL disable
Professional	AH	10.0	High temperature alarm configuration (-50.0~150.0°C)	[A0≤0] probe1≥AH, alarm on; probe1<AH+A0, alarm off; AH=150, AH disable [A0>0] probe1≥ST+AH, alarm on; probe1<ST+AH-A0, alarm off; AH=0, AH disable
Professional	Ad	100	Low and high temperature alarm delay (0~199min)	
Professional	A4	10	External input configuration (0,1,2,3,4,5,6,7,8,9,10,11)	0= disable; 1= exter. alarm (open = alarm); 2= input to enable inter. defrost (open = disable); 3= [dl=0] exter. defrost (close = start defrosting, display probe2); 4= energy saving mode (close = enable); 5= remote ON/OFF (close = ON); 6=[H1=3] input to control AUX (open = AUX de-energised); 7=[H1=3] door open alarm and fan on/off (open = door open = AUX & fans de-energ., after A7&d8, fans restore running + "dor" flash + alarm); 8=7+ comp.control; 9= input to select direct/reverse operation (open = direct, [r3=0]with defrost); 10= condenser probe; 11= product probe
Professional	A7	2	External alarm detection delay (0~199min)	A7= 0, instant alarm; A7>0, delayed A7
Professional	A8	0	Enable alarm "ed":end deforst by dp timeout (0,1)	0= disable; 1= enable
Professional	Ac	65.0	High cond.temp.alarm (-50.0~150.0°C)	[A4=10] enable, probe3≥Ac, "CHt" flash, condenser blocked, after cleaning, manual reset
Professional	AE	5.0	High cond.temp.alarm differential (0.1~20.0°C)	[A4=10] enable, probe3≥Ac-AE/2, "CHt" flash and alarm; probe3<Ac-AE, self-resetting
Professional	Acd	5	High cond.temp.alarm delay (0~250min)	[A4=10] enable
Professional	F0	0	Fan management, dd&Fd&c0 respected (0,1)	0= fans on; 1= fans on according to parameter F1&F2&F3
After ser.&pro.	F1	5.0	fans shutdown temperature (-50.0~127.0°C)	[F0=1] probe1≥F1, fans off; probe1<F1-A0, fans on
Professional	F2	1	fans status when compressor off (0,1)	[F0=1]0= on; 1= off
Professional	F3	1	fans status during deforst (0,1)	0= on; 1= off
Professional	Fd	2	Dripping time (0~15min)	During Fd, fans off
Professional	H0	1	Serial address (0,1,2~207)	Remote control or maintenance
Professional	H1	0	AUX output configuration (0,1,2,3)	0= disable; 1= de-energised when alarm; 2= energised when alarm; 3= driven by open/close input
After ser.&pro.	H2	2	Keypad (0,1,2)	0= disable; 1= enable; 2= keypad enabled, ON/OFF disabled
Professional	H4	0	Buzzer (0,1)	0= enable; 1= disable
Professional	H5	-	Display ID code from supervisor (0,1,2~31)	
Professional	EZY	0	Select Easy Set according to the model,see manual	

## Thermostat settings for FAGOR remote chiller

Level	Param	Setting	Description	Comment
Customer	ST	2.0	Setting temperature (r1~r2°C)	
After service	PS	-	PS flash on the screen	Input the password "22" to enter professional setting
Professional	PS	22	Set password 22 (1~200)	Input any number to change the password
Professional	/2	4	Stability and sensitivity of the probe(1~15)	Larger number, more stability, but less sensitivity
Professional	/4	1	Select the sensor to display the temperature (1,2,3)	1= internal; 2= evaporator; 3= condensor (if exist)
Professional	/5	0	Select °C / °F (0,1)	0=°C; 1=°F
Professional	/6	0	Precision of temperature (0,1)	0= display the first number after decimal point; 1= disable the decimal point
After ser.&pro.	/C1	-2.0	Internal temp. probe1 calibration (-12.7~12.7°C)	Calibrate the temperature according the real difference
Professional	/C2	0.0	Evaporator temp. probe2 calibration (-12.7~12.7°C)	
Professional	/C3	0.0	Condenser temp. probe3 calibration (-12.7~12.7°C)	
After ser.&pro.	rd	4.0	Control differential (0~19.0°C)	Internal temperature exceeds the setting value by 4 degrees, the compressor start running
Professional	r1	-2.0	Minimum setting (-50.0~r2°C)	Lower limit of the internal temperature
Professional	r2	10.0	Maximum setting (r1~50.0°C)	Upper limit of the internal temperature
Professional	r3	0	Direct/reverse (freeze/heat) operating mode (0,1,2)	0= direct+defrost; 1= direct; 2= reverse
Professional	r4	2.0	Energy saving mode (-50.0~50.0°C)	[A4=4 and close] r4=0, disable; r4>0, energy saving temperature=ST+r4
Professional	c0	3	Comp. and fan start delay after start-up (0~100min)	To prevent frequent start when first turned on
Professional	c1	5	Min.time between successive comp.starts (0~100min)	
Professional	c2	2	Minimum compressor off time (0~100min)	
Professional	c3	2	Minimum compressor on time (0~100min)	
Professional	c4	10	Compressor duty setting (0~100min)	[Probe failure] c4=0, comp. stop; 0<c4<100, enable; c4=100, comp. keep running all along
Professional	cc	0	Forced continuous cycle duration (0~15h)	cc=0, disable; cc>0, enable
Professional	c6	2	Alarm bypass time after continuous cycle (0~15h)	disable; [cc=0, after continuous cycle duration, internal temp. probe1 ≤AL] enable
Professional	d0	0	Type of defrost (0,1,2,3,4)	0 = heater by time + temp.; 1= hot gas by time + temp.; 2= heater by time; 3= hot gas by time; 4= heater by time + constant temp.
After ser.&pro.	dl	6	Interval between two defrosts (0~199h)	dl=0, defrost is disabled; dl>0, defrost is enabled
After ser.&pro.	dt	15.0	End defrost temperature (-50.0~127.0°C)	Evaporator temperature probe2 ≥dt, defrost is disabled or stopped
After ser.&pro.	dp	30	Maximum defrost duration (1~199min)	
Professional	d4	1	Defrost when the instrument is switched on (0,1)	1 = yes; 0 = no
Professional	d5	0	Defrost delay (0~199min)	
Professional	d6	0	Disable temperature display during defrost (0,1)	0 = display "d" and tempraw alternately; 1 = display the locked temp. before defrost
Professional	dd	3	Dripping time after defrost (0~15min)	
Professional	d8	1	Alarm bypass time after defrost (0~15h)	
Professional	d9	0	Defrost priority over comp. protectors (0,1)	0 = protection time respected; 1= protection time not respected
After ser.&pro.	d/	-	Display defrost probe temp.	Real-time temperature probe 2
Professional	dC	0	Time base(for defrost only) (0,1)	0 = h/min; 1 = min/s
Professional	A0	2.0	Alarm mode and differential (-20.0~20.0°C)	A0 ≤0, absolute temperature alarm; A0>0, relative temperature alarm
Professional	AL	5.0	Low temperature alarm configuration (-50.0~150.0°C)	[A0 ≤0] probe1 ≥AL, alarm on; probe1>AL-A0, alarm off; AL=-50, AL disable [A0>0] probe1 ≤ST-AL, alarm on; probe1>ST-AL+A0, alarm off; AL=0, AL disable
Professional	AH	10.0	High temperature alarm configuration (-50.0~150.0°C)	[A0 ≤0] probe1 ≤AH, alarm on; probe1<AH+A0, alarm off; AH=150, AH disable [A0>0] probe1 ≥ST+AH, alarm on; probe1<ST+AH-A0, alarm off; AH=0, AH disable
Professional	Ad	100	Low and high temperature alarm delay (0~199min)	
Professional	A4	0	External input configuration (0,1,2,3,4,5,6,7,8,9,10,11)	0= disable; 1= exter. alarm (open = alarm); 2= input to enable inter. defrost (open = disable); 3= [dl=0] exter. defrost (close = start defrosting, display probe2); 4= energy saving mode (close = enable); 5= remote ON/OFF (close = ON); 6=[H1=3] input to control AUX (open = AUX de-energised); 7=[H1=3] door open alarm and fan on/off (open = door open = AUX & fans de-energ., after A7&d8, fans restore running + "dor" flash + alarm); 8=7+ comp.control; 9= input to select direct/reverse operation (open = direct, [r3=0]with defrost); 10= condenser probe; 11= product probe
Professional	A7	2	External alarm detection delay (0~199min)	A7= 0, instant alarm; A7>0, delayed A7
Professional	A8	0	Enable alarm "ed":end defrost by dp timeout (0,1)	0= disable; 1= enable
Professional	Ac	65.0	High cond.temp.alarm (-50.0~150.0°C)	[A4=10] enable, probe3 ≥Ac, "CHt" flash, condenser blocked, after cleaning, manual reset
Professional	AE	5.0	High cond.temp.alarm differential (0.1~20.0°C)	[A4=10] enable, probe3 ≥Ac-AE/2, "CHt" flash and alarm; probe3<Ac-AE, self-resetting
Professional	Acd	5	High cond.temp.alarm delay (0~250min)	[A4=10] enable
Professional	F0	0	Fan management, dd&Fd&c0 respected (0,1)	0= fans on ; 1= fans on according to parameter F1&F2&F3
After ser.&pro.	F1	5.0	fans shutdown temperature (-50.0~127.0°C)	[F0=1] probe1 ≥F1, fans off; probe1<F1-A0, fans on
Professional	F2	1	fans status when compressor off (0,1)	[F0=1]0= on; 1= off
Professional	F3	1	fans status during defrost (0,1)	0= on; 1= off
Professional	Fd	2	Dripping time (0~15min)	During Fd, fans off
Professional	H0	1	Serial address (0,1,2,...207)	Remote control or maintenance
Professional	H1	0	AUX output configuration (0,1,2,3)	0= disable; 1= de-energised when alarm; 2= energised when alarm; 3= driven by open/close input
After ser.&pro.	H2	2	Keypad (0,1,2)	0= disable; 1= enable; 2= keypad enabled, ON/OFF disabled
Professional	H4	0	Buzzer (0,1)	0= enable; 1= disable
Professional	H5	-	Display ID code from supervisor (0,1,2,...31)	
Professional	EZY	0	Select Easy Set according to the model,see manual	



## Thermostat settings for FAGOR remote freezer

Level	Param	Setting	Description	Comment
Customer	ST	<b>-22.0</b>	Setting temperature (r1~r2°C)	
After service	PS	-	PS flash on the screen	Input the password "22" to enter professional setting
Professional	PS	22	Set password 22 (1~200)	Input any number to change the password
Professional	/2	4	Stability and sensitivity of the probe(1~15)	Larger number, more stability, but less sensitivity
Professional	/4	<b>1</b>	Select the sensor to display the temperature (1,2,3)	1= internal; 2= evaporator; 3= condenser (if exist)
Professional	/5	<b>0</b>	Select °C / °F (0,1)	0=°C; 1=°F
Professional	/6	0	Precision of temperature (0,1)	0= display the first number after decimal point; 1= disable the decimal point
After ser.&pro.	/C1	<b>-2.0</b>	Internal temp. probe1 calibration (-12.7~12.7°C)	Calibrate the temperature according the real difference
Professional	/C2	0.0	Evaporator temp. probe2 calibration (-12.7~12.7°C)	
Professional	/C3	0.0	Condenser temp. probe3 calibration (-12.7~12.7°C)	
After ser.&pro.	rd	<b>4.0</b>	Control differential (0~19.0°C)	Internal temperature exceeds the setting value by 4 degrees, the compressor start running
Professional	r1	<b>-22.0</b>	Minimum setting (-50.0~r2°C)	Lower limit of the internal temperature
Professional	r2	<b>-18.0</b>	Maximum setting (r1~150.0°C)	Upper limit of the internal temperature
Professional	r3	<b>0</b>	Direct/reverse (freeze/heat) operating mode (0,1,2)	0= direct+defrost; 1= direct; 2= reverse
Professional	r4	2.0	Energy saving mode (-50.0~50.0°C)	[A4=4 and close] r4=0, disable; r4>0, energy saving temperature=ST+r4
Professional	c0	3	Comp. and fan start delay after start-up (0~100min)	To prevent frequent start when first turned on
Professional	c1	5	Min.time between successive comp.starts (0~100min)	
Professional	c2	2	Minimum compressor off time (0~100min)	
Professional	c3	2	Minimum compressor on time (0~100min)	
Professional	c4	10	Compressor duty setting (0~100min)	[Probe failure] c4=0, comp. stop; 0<c4<100, enable; c4=100, comp. keep running all along
Professional	cc	0	Forced continuous cycle duration (0~15h)	cc=0, disable; cc>0, enable
Professional	c6	2	Alarm bypass time after continuous cycle (0~15h)	disable; [cc=0, after continuous cycle duration, internal temp. probe1≤AL] enable
Professional	d0	<b>0</b>	Type of defrost (0,1,2,3,4)	0 = heater by time + temp.; 1= hot gas by time + temp.; 2= heater by time; 3= hot gas by time; 4= heater by time + constant temp.
After ser.&pro.	dl	<b>4</b>	Interval between two defrosts (0~199h)	dl=0, defrost is disabled; dl>0, defrost is enabled
After ser.&pro.	dt	<b>15.0</b>	End defrost temperature (-50.0~127.0°C)	Evaporator temperature probe2≥dt, defrost is disabled or stopped
After ser.&pro.	dp	<b>30</b>	Maximum defrost duration (1~199min)	
Professional	d4	<b>1</b>	Defrost when the instrument is switched on (0,1)	1 = yes; 0 = no
Professional	d5	<b>0</b>	Defrost delay (0~199min)	
Professional	d6	0	Disable temperature display during defrost (0,1)	0 = display "df" and tempraw alternately; 1 = display the locked temp. before defrost
Professional	dd	3	Dripping time after defrost (0~15min)	
Professional	d8	<b>1</b>	Alarm bypass time after defrost (0~15h)	
Professional	d9	0	Defrost priority over comp. protectors (0,1)	0 = protection time respected; 1= protection time not respected
After ser.&pro.	d/	-	Display defrost probe temp.	Real-time temperature probe 2
Professional	dC	<b>0</b>	Time base(for defrost only) (0,1)	0 = h/min; 1 = min/s
Professional	A0	<b>2.0</b>	Alarm mode and differential (-20.0~20.0°C)	A0≤0, absolute temperature alarm; A0>0, relative temperature alarm
Professional	AL	<b>5.0</b>	Low temperature alarm configuration (-50.0~150.0°C)	[A0≤0] probe1≤AL, alarm on; probe1>AL-A0, alarm off; AL=-50, AL disable [A0>0] probe1≤ST-AL, alarm on; probe1>ST-AL+A0, alarm off; AL=0, AL disable
Professional	AH	<b>10.0</b>	High temperature alarm configuration (-50.0~150.0°C)	[A0≤0] probe1≥AH, alarm on; probe1<AH+A0, alarm off; AH=150, AH disable [A0>0] probe1≥ST+AH, alarm on; probe1<ST+AH-A0, alarm off; AH=0, AH disable
Professional	Ad	<b>100</b>	Low and high temperature alarm delay (0~199min)	
Professional	A4	<b>0</b>	External input configuration (0,1,2,3,4,5,6,7,8,9,10,11)	0= disable; 1= exter. alarm (open = alarm); 2= input to enable inter. defrost (open = disable); 3= [dl=0] exter. defrost (close = start defrosting, display probe2); 4= energy saving mode (close = enable); 5= remote ON/OFF (close = ON); 6=[H1=3] input to control AUX (open = AUX de-energised); 7=[H1=3] door open alarm and fan on/off (open = door open = AUX & fans de-energ., after A7&d8, fans restore running + "dor" flash + alarm); 8=7+ comp.control; 9= input to select direct/reverse operation (open = direct, [r3=0]with defrost); 10= condenser probe; 11= product probe
Professional	A7	2	External alarm detection delay (0~199min)	A7= 0, instant alarm; A7>0, delayed A7
Professional	A8	0	Enable alarm "ed":end defrost by dp timeout (0,1)	0= disable; 1= enable
Professional	Ac	65.0	High cond.temp.alarm (-50.0~150.0°C)	[A4=10] enable, probe3≥Ac, "CHt" flash, condenser blocked, after cleaning, manual reset
Professional	AE	5.0	High cond.temp.alarm differential (0.1~20.0°C)	[A4=10] enable, probe3≥Ac-AE/2, "CHt" flash and alarm; probe3<Ac-AE, self-resetting
Professional	Acd	5	High cond.temp.alarm delay (0~250min)	[A4=10] enable
Professional	F0	<b>0</b>	Fan management, dd&Fd&c0 respected (0,1)	0= fans on; 1= fans on according to parameter F1&F2&F3
After ser.&pro.	F1	<b>5.0</b>	fans shutdown temperature (-50.0~127.0°C)	[F0=1] probe1≥F1, fans off; probe1<F1-A0], fans on
Professional	F2	1	fans status when compressor off (0,1)	[F0=1]0= on; 1= off
Professional	F3	<b>1</b>	fans status during defrost (0,1)	0= on; 1= off
Professional	Fd	2	Dripping time (0~15min)	During Fd, fans off
Professional	H0	1	Serial address (0,1,2,~207)	Remote control or maintenance
Professional	H1	0	AUX output configuration (0,1,2,3)	0= disable; 1= de-energised when alarm; 2= energised when alarm; 3= driven by open/close input
After ser.&pro.	H2	<b>2</b>	Keypad (0,1,2)	0= disable; 1= enable; 2= keypad enabled, ON/OFF disabled
Professional	H4	<b>0</b>	Buzzer (0,1)	0= enable; 1= disable
Professional	H5	-	Display ID code from supervisor (0,1,2,~31)	
Professional	EZY	0	Select Easy Set according to the model,see manual	

## Thermostat settings for FAGOR remote chiller GD

Level	Param	Setting	Description	Comment
Customer	ST	<b>2.0</b>	Setting temperature (r1~r2°C)	
After service	PS	-	PS flash on the screen	Input the password "22" to enter professional setting
Professional	PS	22	Set password 22 (1~200)	Input any number to change the password
Professional	/2	4	Stability and sensitivity of the probe(1~15)	Larger number, more stability, but less sensitivity
Professional	/4	<b>1</b>	Select the sensor to display the temperature (1,2,3)	1= internal; 2= evaporator; 3= condensor (if exist)
Professional	/5	<b>0</b>	Select °C / °F (0,1)	0=°C; 1=°F
Professional	/6	0	Precision of temperature (0,1)	0= display the first number after decimal point; 1= disable the decimal point
After ser.&pro.	/C1	<b>-2.0</b>	Internal temp. probe1 calibration (-12.7~12.7°C)	Calibrate the temperature according the real difference
Professional	/C2	0.0	Evaporator temp. probe2 calibration (-12.7~12.7°C)	
Professional	/C3	0.0	Condenser temp. probe3 calibration (-12.7~12.7°C)	
After ser.&pro.	rd	<b>4.0</b>	Control differential (0~19.0°C)	Internal temperature exceeds the setting value by 4 degrees, the compressor start running
Professional	r1	<b>1.0</b>	Minimum setting (-50.0~r2°C)	Lower limit of the internal temperature
Professional	r2	<b>10.0</b>	Maximum setting (r1~150.0°C)	Upper limit of the internal temperature
Professional	r3	<b>0</b>	Direct/reverse (freeze/heat) operating mode (0,1,2)	0= direct+defrost; 1= direct; 2= reverse
Professional	r4	2.0	Energy saving mode (-50.0~50.0°C)	[A4=4 and close] r4=0, disable; r4>0, energy saving temperature=ST+r4
Professional	c0	3	Comp. and fan start delay after start-up (0~100min)	To prevent frequent start when first turned on
Professional	c1	5	Min.time between successive comp.starts (0~100min)	
Professional	c2	2	Minimum compressor off time (0~100min)	
Professional	c3	2	Minimum compressor on time (0~100min)	
Professional	c4	10	Compressor duty setting (0~100min)	[Probe failure] c4=0, comp. stop; 0<c4<100, enable; c4=100, comp. keep running all along
Professional	cc	0	Forced continuous cycle duration (0~15h)	cc=0, disable; cc>0, enable
Professional	c6	2	Alarm bypass time after continuous cycle (0~15h)	disable; [cc=0, after continuous cycle duration, internal temp. probe1≤AL] enable
Professional	d0	<b>0</b>	Type of defrost (0,1,2,3,4)	0 = heater by time + temp.; 1= hot gas by time + temp.; 2= heater by time; 3= hot gas by time; 4= heater by time + constant temp.
After ser.&pro.	dl	<b>6</b>	Interval between two defrosts (0~199h)	dl=0, defrost is disabled; dl>0, defrost is enabled
After ser.&pro.	dt	<b>15.0</b>	End defrost temperature (-50.0~127.0°C)	Evaporator temperature probe2≥dt, defrost is disabled or stopped
After ser.&pro.	dp	<b>30</b>	Maximum defrost duration (1~199min)	
Professional	d4	<b>1</b>	Defrost when the instrument is switched on (0,1)	1 = yes; 0 = no
Professional	d5	<b>0</b>	Defrost delay (0~199min)	
Professional	d6	0	Disable temperature display during defrost (0,1)	0 = display "df" and tempraw alternately; 1 = display the locked temp. before defrost
Professional	dd	3	Dripping time after defrost (0~15min)	
Professional	d8	<b>1</b>	Alarm bypass time after defrost (0~15h)	
Professional	d9	0	Defrost priority over comp. protectors (0,1)	0 = protection time respected; 1= protection time not respected
After ser.&pro.	d/	-	Display defrost probe temp.	Real-time temperature probe 2
Professional	dC	<b>0</b>	Time base(for defrost only) (0,1)	0 = h/min; 1 = min/s
Professional	A0	<b>2.0</b>	Alarm mode and differential (-20.0~20.0°C)	A0≤0, absolute temperature alarm; A0>0, relative temperature alarm
Professional	AL	<b>5.0</b>	Low temperature alarm configuration (-50.0~150.0°C)	[A0≤0] probe1≤AL, alarm on; probe1>AL-A0, alarm off; AL=-50, AL disable [A0>0] probe1≤ST-AL, alarm on; probe1>ST-AL+A0, alarm off; AL=0, AL disable
Professional	AH	<b>10.0</b>	High temperature alarm configuration (-50.0~150.0°C)	[A0≤0] probe1≥AH, alarm on; probe1<AH+A0, alarm off; AH=150, AH disable [A0>0] probe1≥ST+AH, alarm on; probe1<ST+AH-A0, alarm off; AH=0, AH disable
Professional	Ad	<b>100</b>	Low and high temperature alarm delay (0~199min)	
Professional	A4	<b>0</b>	External input configuration (0,1,2,3,4,5,6,7,8,9,10,11)	0= disable; 1= exter. alarm (open = alarm); 2= input to enable inter. defrost (open = disable); 3= [dl=0] exter. defrost (close = start defrosting, display probe2); 4= energy saving mode (close = enable); 5= remote ON/OFF (close = ON); 6=[H1=3] input to control AUX (open = AUX de-energised); 7=[H1=3] door open alarm and fan on/off (open = door open = AUX & fans de-energ., after A7&d8, fans restore running + "dor" flash + alarm); 8=7+ comp.control; 9= input to select direct/reverse operation (open = direct, [r3=0]with defrost); 10= condenser probe; 11= product probe
Professional	A7	2	External alarm detection delay (0~199min)	A7= 0, instant alarm; A7>0, delayed A7
Professional	A8	0	Enable alarm "ed":end defrost by dp timeout (0,1)	0= disable; 1= enable
Professional	Ac	65.0	High cond.temp.alarm (-50.0~150.0°C)	[A4=10] enable, probe3≥Ac, "Cht" flash, condenser blocked, after cleaning, manual reset
Professional	AE	5.0	High cond.temp.alarm differential (0.1~20.0°C)	[A4=10] enable, probe3≥Ac-AE/2, "Cht" flash and alarm; probe3<Ac-AE, self-resetting
Professional	Acd	5	High cond.temp.alarm delay (0~250min)	[A4=10] enable
Professional	F0	<b>0</b>	Fan management, dd&Fd&c0 respected (0,1)	0= fans on ; 1= fans on according to parameter F1&F2&F3
After ser.&pro.	F1	<b>5.0</b>	fans shutdown temperature (-50.0~127.0°C)	[F0=1] probe1≥F1, fans off; probe1<F1-A0, fans on
Professional	F2	1	fans status when compressor off (0,1)	[F0=1]0= on; 1= off
Professional	F3	<b>1</b>	fans status during defrost (0,1)	0= on; 1= off
Professional	Fd	2	Dripping time (0~15min)	During Fd, fans off
Professional	H0	1	Serial address (0,1,2,...207)	Remote control or maintenance
Professional	H1	0	AUX output configuration (0,1,2,3)	0= disable; 1= de-energised when alarm; 2= energised when alarm; 3= driven by open/close input
After ser.&pro.	H2	<b>2</b>	Keypad (0,1,2)	0= disable; 1= enable; 2= keypad enabled, ON/OFF disabled
Professional	H4	<b>0</b>	Buzzer (0,1)	0= enable; 1= disable
Professional	H5	-	Display ID code from supervisor (0,1,2,...31)	
Professional	EZY	0	Select Easy Set according to the model,see manual	



## **5.Replacement of Main Components**

### **5.1 Replacement of Main Components of counter.**

CSI INSTALACIONES

## A. Replace the controller and the running switch on a counter.

A1. Unscrew the screw on the side of the control panel.



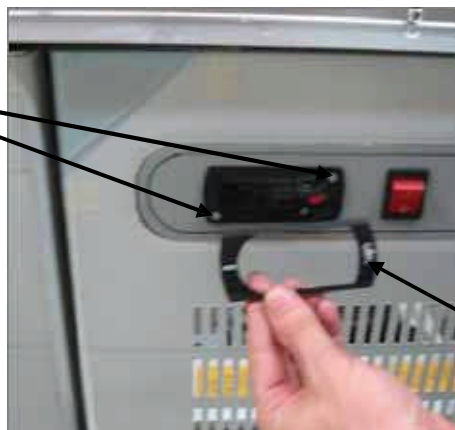
A2. Open the control panel and unscrew the screw by the side of the controller cover.



Controller cover

A3. Take the plastic cover of the controller and then unscrew the screws of the controller.

Screws of the controller



plastic cover

A4. Unplug the electrical lines and then you can change the controller and the running switch.



## **B. Replace the condenser unit.**

B1. Unscrew the rivets on the back of the top and then take the top away.



The rivets on the back

B2. Open the control panel and then unscrew the screw in the front of the condenser unit.

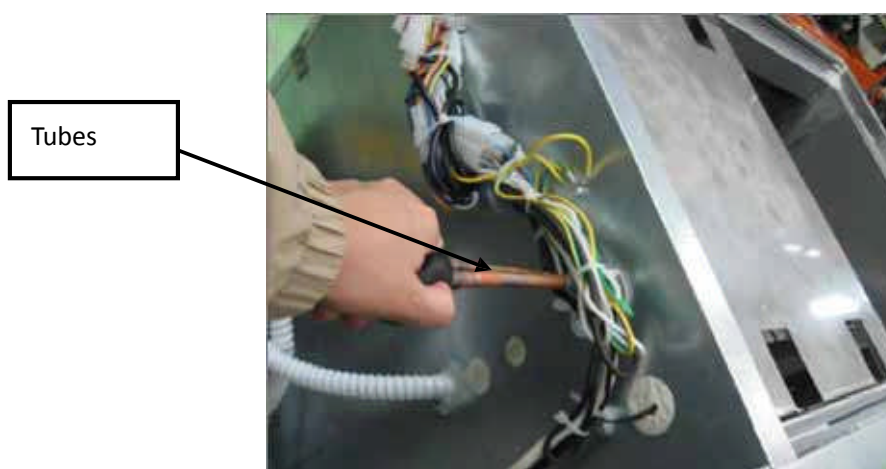


B3. Pull out the condenser unit and then discharge the refrigerant of the compressor. In this way, you can change the filter, the fan, the compressor, the condenser, the evaporate pan.



## C. Replace the components related to evaporator unit.

C1. Take the top away like B1, discharge the refrigerant, and cut off the tubes that connect the evaporator unit with the condenser unit, and unplug the relative connectors.



C2. Unscrew the screws that fix the evaporator unit with the counter.



C3. Unscrew the 2 screws then take the evaporator cover away, then change the heater lines.



C4. Change the fan and fan motor by unscrewing the screws of the fan motor.





C5. Change the heater tube cover and the heater tube, and the evaporator sensor, and the evaporator.



Evaporator cover



Heater tube



Evaporator sensor

## D. Replace a door.

D1. Disassembly the old door.



Disassembly the bolt in the bottom of the door



Lift the door with pulling until the screw cap of the door is out of the hinge support, and then take the door down from the stud





D2. Adjust the screw cap in the bottom of the new door.

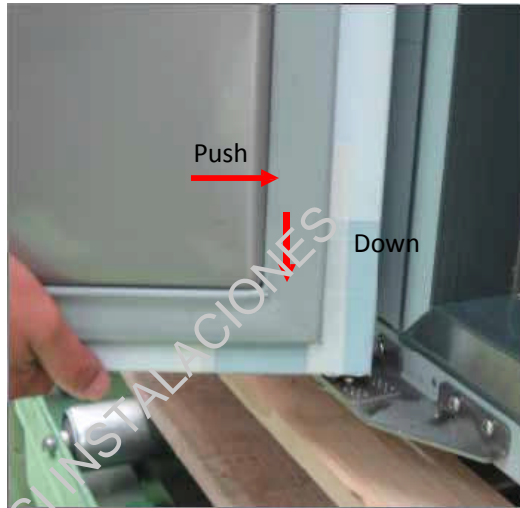


Adjust the screw cap on the bottom of the new door to the outside of the door (about  $140^{\circ}$  ) until you feel the spring is relaxing, in this way, the door will close automatically.

D3. Lift the door and insert the stud into the plastic part of the door.



D4. Pushing the door to insert the screw cap on the bottom of the door into the support, and screw the bolt in the bottom.



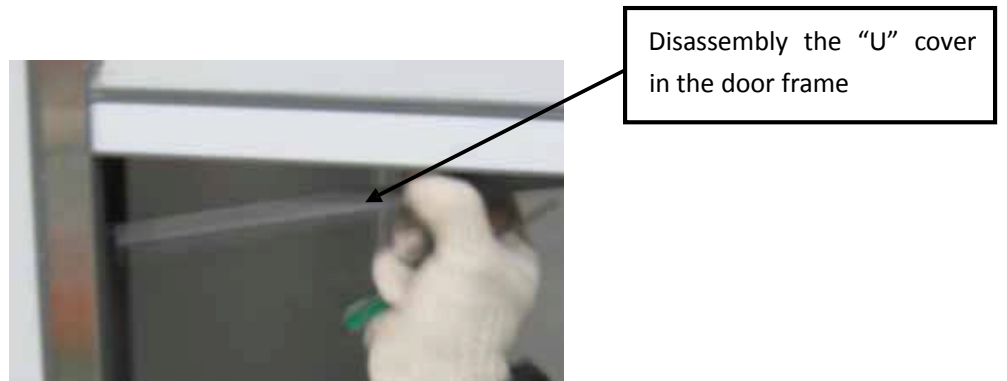
## **E. Replace the heater in the door frame.**

E1. Disassembly the top as B1

E2. Disassembly the doors like D1.

E3. Disassembly the heater covers and the “U” cover in the door frame, then you can see the heater lines.





E4. Open the control panel, then unplug the connectors of the door heaters and change it.

## 5.2 Replacement of Main Components of cabinet

## **F. Replace the controller and the running switch on a cabinet.**

F1. Disassembly the control panel of the cabinet by unscrewing the screws that fix the control panel with the insulation body, and unplug the connectors, then you can change the controller and the running switch, and the door switch.



## **G. Replace the doors of the cabinet.**

G1. Unscrew the screw in the bottom of the door.



Unscrew the screw in the bottom of the door

G2. Lift up the door with pulling, then take it apart from the cabinet, then you can change this one to a new one.



G3. If need to change the upper door, then, after the steps of E1, E2, unscrew the bolt between the upper door and the lower door, then change the upper door like E1,E2.



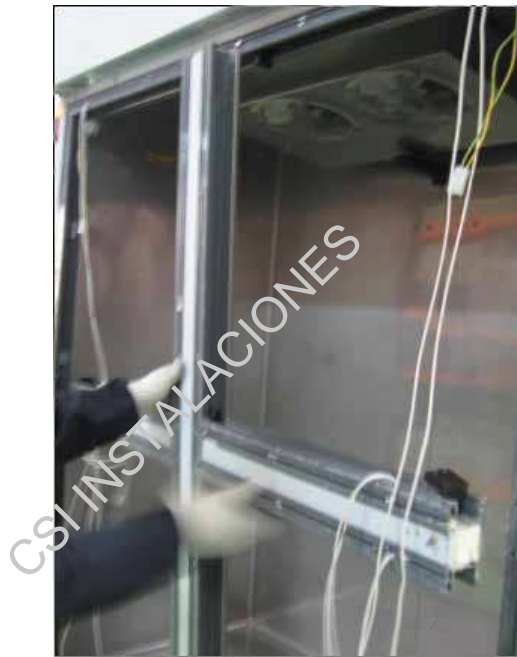
## **H. Replace the door heater in the door frame.**

H1. Disassembly the hinge supports.



- H2. Disassembly the heater covers and the “U” cover in the door frame like E3.  
H3. Disassembly the front frames by unscrewing the screws in the corner.





H4. Unplug the connectors of the door heater and then change the heater.



## **J. Replace the components of the condenser unit.**

J1. Discharge the coolant in the compressor.





J2. Cut of the pipes that connect the condenser unit with the evaporator unit.



J3. Then you can change the fan, the fan-motor, the compressor, the condenser.

## **K. Replace the components of the evaporator.**

K1. Discharge the coolant in the compressor as J1.

K2. Cut of the pipes that connect the condenser unit with the evaporator unit as J2.

K3. Unscrew the screws on the evaporator cover, and open it, then you can change the fan, fan motor, the heater line, the heater tube, and the sensor of the evaporator.



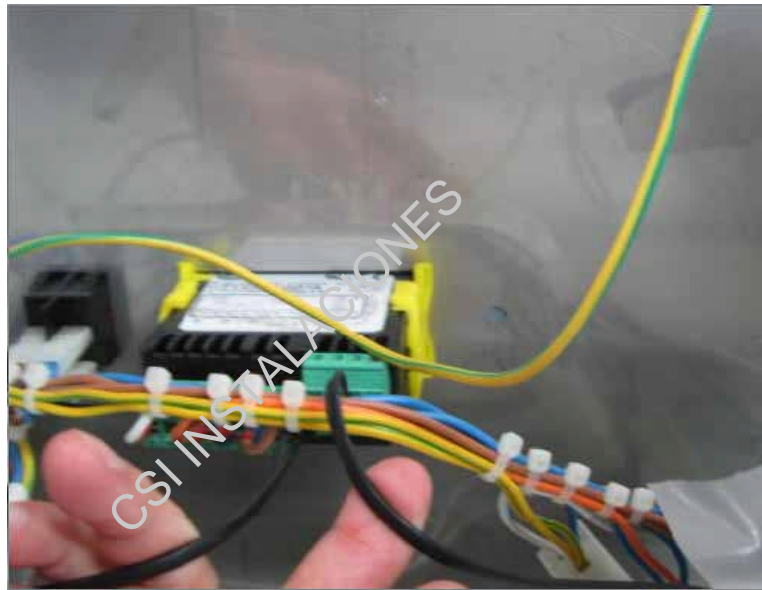


## **L. Replace the sensor in the cabinet.**

L1. Unscrew the screws of the sensor cover that is on the right side of the cabinet.



L2. Unplug the sensor with the controller, and then you can change it to a new one.



**M. Replace the heating wire for Fagor upright**

M1. Reassemble this plate at the back of refrigerator and make sure that the power

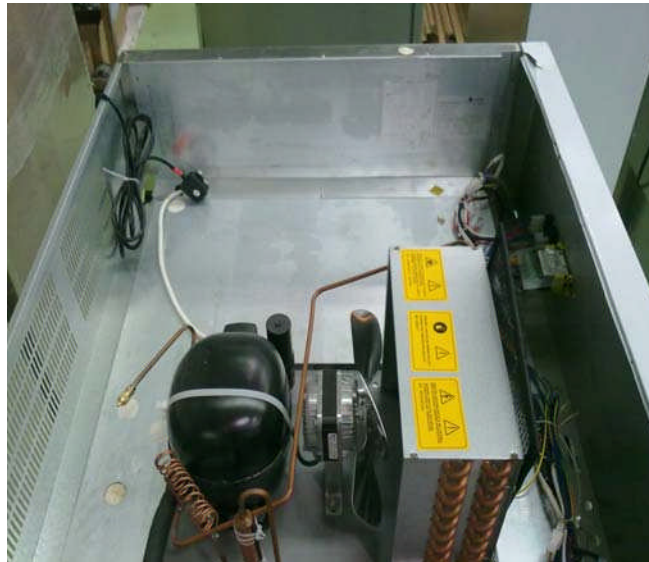
is off before we start to rework.



M2. Find the only wire which is red in the tank.



M3. Disassemble this plate at the top of the refrigerator.



M4. Find the wire which goes through the hole to the tank adhered to the back of refrigerator.

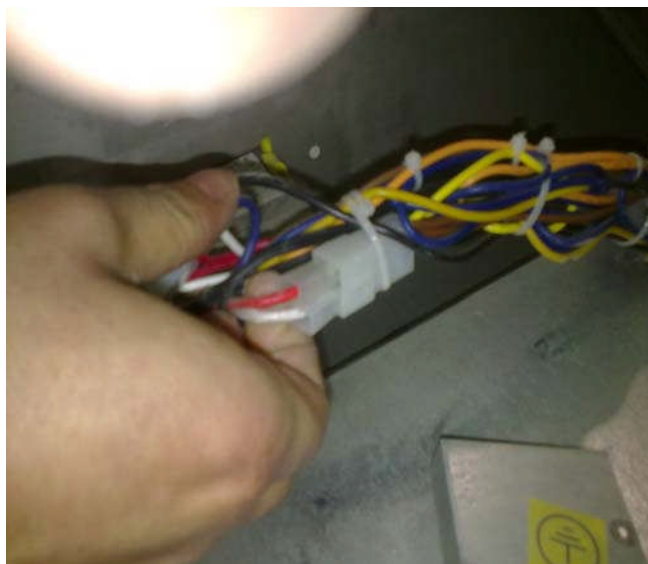




M5. Find the heating wire and go along with it to the joint



M6. Pull out the joint according to 5



M7. Replace new one and assemble these plates back

the heating wire with



M8. Do remember to assemble these two ground wires back at the top of the refrigerator

